

# Ōhiwa Harbour Implementation Forum

## NOTICE IS GIVEN

that the next meeting of the **Ōhiwa Harbour Implementation Forum** will be held in the **Council Chambers, Whakatāne District Council, Civic Centre, Commerce Street, Whakatāne** on:

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**Tuesday, 12 September 2017 commencing at 9.30am.**

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Please note tea/coffee will be available from 9am prior to commencement of the meeting.

Mary-Anne Macleod  
Chief Executive  
Bay of Plenty Regional Council Toi Moana

5 September 2017

*Ōhiwa Harbour Implementation Forum:*





# Ōhiwa Harbour Implementation Forum Terms of Reference

## Delegated Function

To oversee and monitor the implementation of the Ohiwa Harbour Strategy.

## Membership

Membership will consist of an appointed councillor from each of the three Councils and appointed representatives of local Iwi as follows:

- One representative - Opotiki District Council;
- One representative - Whakatane District Council;
- One representative - Bay of Plenty Regional Council;
- Four appointees (Tangata Whenua) representing Whakatōhea, Upokorehe, Ngāti Awa and Ngāi Tahu.

The Forum (made up of the representatives as outlined above) will specifically invite attendance by organisations/groups which they believe will be interested (such as the Department of Conservation, Ministry of Fisheries, Nukuhou Salt Marsh Care Group). The meetings will also be publicly advertised so that members of the wider community can also attend.

## Quorum

In accordance with Council standing order 10.2, the quorum at a meeting of the Joint Committee is four members, consisting of the majority of the number of members.

## Standing Orders

The Bay of Plenty Regional Council Standing Orders will apply to this Joint Committee, except as varied by these Terms of Reference or unless the members of the Joint Committee unanimously agree to vary those standing orders as they apply to the Joint Committee.

## Chair

The 'Ōhiwa Harbour Implementation Forum' elects a Chairperson at its first meeting each Triennium.

## Frequency of meetings

Meetings will be held every six months or as required.

## Term of the Committee

The need for and purpose of 'Ōhiwa Harbour Implementation Forum' will be revisited every three years from the date of the first meeting. The establishment of the 'Ōhiwa Harbour Implementation Forum' is subject to review 3 - yearly following local authority elections. Subject to the Forum being

re-appointed, Councillor and appointed tangata whenua representatives are appointed by the incoming Councils.

## Specific Responsibilities and Delegated Authority

The 'Ōhiwa Harbour Implementation Forum':

- Is the sponsor of the Ōhiwa Harbour Strategy;
- Is responsible for overseeing the implementation of the actions in the Strategy;
- Has an overall monitoring role in terms of timeframes and deliverables;
- Maintains a general awareness of the issues surrounding the Ōhiwa Harbour Catchment; and
- Is responsible for reporting back to the strategic partners and to the community.

The 'Ōhiwa Harbour Implementation Forum' will:

- Receive reports (including those prepared by staff of the three Councils) of what has recently been achieved with regards to implementing the Strategy, and outlining what the next targets for implementation could be;
- Provide a sounding board for officers to test implementation ideas against;
- Provide recommendations that can be reported back to councils; and
- Promote links with the Ōhiwa Harbour Catchment community.

## Administering Authority

Bay of Plenty Regional Council is responsible for the administration of the 'Ōhiwa Harbour Implementation Forum'.

### **Note:**

The Ōhiwa Harbour Implementation Forum reports directly to the Regional Council.

The 'Ōhiwa Harbour Implementation Forum' has no delegated authority for financial expenditure.

The costs of attendance at meetings lie where they fall. The exception to this is that a standard meeting fee will be provided for Iwi representation. The cost of this will be borne by the Bay of Plenty Regional Council. The actions to give effect to the Strategy itself and costs associated with reporting to the Committee are funded from within the budgets of participating councils.



## Public Forum

1. A period of up to 15 minutes may be set aside near the beginning of the meeting to enable members of the public to make statements about any matter on the agenda of that meeting which is open to the public, but excluding any matter on which comment could prejudice any specified statutory process the council is required to follow.
2. The time allowed for each speaker will normally be up to 5 minutes but will be up to the discretion of the chair. A maximum of 3 public participants will be allowed per meeting.
3. No statements by public participants to the Council shall be allowed unless a written, electronic or oral application has been received by the Chief Executive (Governance Team) by 12.00 noon of the working day prior to the meeting and the Chair's approval has subsequently been obtained. The application shall include the following:
  - name of participant;
  - organisation represented (if any);
  - meeting at which they wish to participate; and matter on the agenda to be addressed.
4. Members of the meeting may put questions to any public participants, relevant to the matter being raised through the chair. Any questions must be asked and answered within the time period given to a public participant. The chair shall determine the number of questions.



# Membership

<b>Chairperson:</b>	Councillor T Marr (Bay of Plenty Regional Council)
<b>Deputy Chairperson:</b>	Councillor L Riesterer (Ōpōtiki District Council)
<b>Appointees:</b>	<b>Bay of Plenty Regional Council</b> Councillor W Clark (Alternate)  <b>Ōpōtiki District Council</b> Councillor K Young (Alternate)  <b>Te Rūnanga o Ngāti Awa</b> C Bluett  <b>Whakatāne District Council</b> Councillor A Iles, Councillor N Tanczos (Alternate)  <b>Te Waimana Kaaku (Ngāi Tuhoe)</b> R Kora, K Te Pou (Alternate)  <b>Te Upokorehe</b> T Ransfield, M Manuel (Alternate)  <b>Whakatōhea Māori Trust Board</b> G Tuari-Kohunui
<b>Committee Advisor:</b>	S Kameta

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Recommendations in reports are not to be construed as policy until adopted.

## Agenda

- 1 Opening Karakia
- 2 Apologies
- 3 Public Forum
- 4 General Business and Late Items

Items not on the agenda for the meeting require a resolution under section 46A of the Local Government Official Information and Meetings Act 1987 stating the reasons why the item was not on the agenda and why it cannot be delayed until a subsequent meeting.

- 5 Declarations of Conflicts of Interests

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## **8 Consideration of General Business**

## **9 Closing Karakia**

## **Previous Minutes**



# Minutes of the Ōhiwa Harbour Implementation Forum Meeting held at Kutarere Marae, State Highway 2, Kutarere on Monday, 13 March 2017 commencing at 9.30 a.m.

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## **Present:**

**Appointees:** Councillor A Iles (Whakatāne District Council), Councillor T Marr (Bay of Plenty Regional Council), Councillor L Riesterer (Ōpōtiki District Council), G Tuari-Kohunui (Whakatōhea Māori Trust Board), R Kora (Te Waimana Kaaku (Ngai Tuhoe), T Ransfield (Te Upokorehe), C Bluett (Te Rūnanga o Ngāti Awa)

**In Attendance:** M Manuel (Alternate, Te Upokorehe), Councillor N Tánczos (Alternate, Whakatāne District Council), Councillor W Clark (Alternate, Bay of Plenty Regional Council), T O'Brien (Deputy Chairman, Te Rūnanga o Ngāti Awa), Chairman Leeder (Bay of Plenty Regional Council), S Stokes (Eastern Catchments Manager), T Senior (Land Management Officer), M Houghton (Ōpōtiki District Council), M Jones (Department of Conservation), M Naude, A Kranenburg (Whakatāne District Council), J Rae, K Simpson (Safe Roads), B Pukepuke (Kutarere Marae), R Wikotu (Rongopapai), S Kameta (Committee Advisor)

**Apologies:** Nil

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## **1 Mihi Whakatau**

A mihi whakatau (welcome) took place at 9:30 am before the meeting.

## **2 Opening Karakia**

An opening karakia was provided by kaumātua Bruce Pukepuke.

## **3 Commencement of meeting**

Eastern Catchments Manager Simon Stokes declared the meeting opened at 10:15 am and welcomed members and attendees to the first Forum meeting of the Triennium. A round of introductions by members and staff present followed.

## **4 First Meeting Matters**

### **4.1 Election of Chairperson and Deputy Chairperson**

Eastern Catchments Manager Simon Stokes informed the Forum of first meeting matters and called for the Forum to adopt a voting system for the election of a new Chairperson and Deputy Chairperson.

## **Resolved**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 **Receives the report, First Meeting Matters.**
- 2 **Selects System B as the voting system to elect the Chairperson and Deputy Chairperson.**
- 3 **Agrees that in the event of a tie between the highest polling candidates, the names of the candidates receiving an equal number of votes be put into a container and the candidate drawn out, by an independent person (such as the Committee Advisor), is deemed to be elected.**

**Iles/Kora  
CARRIED**

#### 4.1.1 **Nominations for Chairperson**

Mr Stokes called for nominations for the position of Chairperson.

- 1) Trevor Ransfield nominated Councillor Tiipene Marr and Rachel Kora seconded the nomination.

As no further nominations were received, Mr Stokes announced nominations were closed. Councillor Marr made a brief speech in support of his nomination.

Mr Stokes asked for a show of hands from voting members for Councillor Marr's nomination, which received unanimous support.

**Mr Stokes declared Councillor Tiipene Marr duly elected as the Forum's Chairman.**

Councillor Marr assumed the Chair.

#### 4.1.2 **Nominations for Deputy Chairperson**

Councillor Marr called for nominations for the position of Deputy Chairperson.

- 1) Councillor Lyn Riesterer nominated Trevor Ransfield and Councillor Andrew Iles seconded the nomination.
- 2) Trevor Ransfield nominated Councillor Lyn Riesterer and Gaylene Tuari-Kohunui seconded the nomination.

As no further nominations were received, Councillor Marr announced nominations were closed.

Mr Ransfield advised he wished to withdraw his nomination and spoke in support of Councillor Lyn Riesterer's nomination and the experience she would bring to the position. Members acknowledged Mr Ransfield's request and respectfully accepted his withdrawal.

Councillor Marr asked for a show of hands from voting members for Councillor Riesterer's nomination, which received unanimous support.

**Councillor Marr declared Councillor Riesterer duly elected as the Deputy Chairperson.**



#### 4.1.3 Matters remaining

Mr Stokes provided a summary of remaining matters reported. Members were informed that the appointment of Te Rūnanga o Ngāti Awa Deputy Chairman Mr Tuwhakairiora O'Brien, as an alternate member would be sought at a future meeting of the Board.

Members were encouraged to attend the Combined Ōhiwa Harbour Strategy Coordination Group (OHSCG) workshop and field trip that were scheduled on 23 May and 23 November. The importance of getting together with OHSCG and understanding work being done at the operational level was raised.

### Resolved

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 4 Elects Councillor Tiipene Marr as the Chairperson for the 2016-2019 Triennium.**

**Ransfield/Kora  
CARRIED**

- 5 Elects Councillor Lyn Riesterer as the Deputy Chairperson for the 2016-2019 Triennium.**

**Ransfield/Kohunui  
CARRIED**

- 6 Notes The Forum's Terms of Reference, attached as Appendix 1 to the report.**

- 7 Notes the Standing Orders to be used for the conduct of its meetings, attached as Appendix 2, as adopted by the administering authority (Bay of Plenty Regional Council) on 15 November 2016.**

- 8 Confirms its membership:**

- Bay of Plenty Regional Council; Councillor Tiipene Marr and Councillor Bill Clark (alternate)
- Ōpōtiki District Council; Councillor Lyn Riesterer and Councillor Ken Young (alternate)
- Te Rūnanga o Ngāti Awa; Charlie Bluett
- Te Upokorehe; Trevor Ransfield and Maui Manuel (alternate)
- Te Waimana Kaaku; Rachel Kora and Kero Te Pou (alternate)
- Whakatāne District Council; Councillor Andrew Iles and Councillor Nándor Tánczos (alternate)
- Whakatōhea Māori Trust Board; Gaylene Tuari-Kohunui

- 9 Confirms the following 2017 meeting and workshop dates:**

- 23 May 2017 – Combined Ōhiwa Harbour Strategy Coordination Group (OHSCG) Workshop

- **12 September 2017 – Ōhiwa Harbour Implementation Forum hui**
- **23 November 2017 – Combined OHSCG Field Trip**

**Iles/Riesterer  
CARRIED**

## **5 General Business and Tabled Items**

The following item was raised for discussion under general business:

- 1) Toi Te Ora Public Health Warnings and Status of Water Quality at Waiōtahe

## **6 Declaration of conflicts of interest**

No conflicts of interest were declared.

## **7 Previous minutes**

### **7.1 Ōhiwa Harbour Implementation Forum minutes - 12 September 2016**

#### **Matters Arising**

Minute Item 4.4, Findings of Green Lipped Mussel sub-tidal sampling surveys in Ōhiwa Harbour 2016 (page 14 of the agenda) – An update on potential Regional Council funding of actions was requested. Eastern Catchments Manager Simon Stokes advised that funding had been found within existing programme budgets and that future opportunities of funding would be investigated through the 2017/18 financial year. A further area of funding was reported later in the agenda, as part of item 8.3 'Restoration of Shellfish Populations and Seastar Management in Ōhiwa Harbour'.

#### **Resolved**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Confirms the minutes of the Ōhiwa Harbour Implementation Forum meeting held 12 September 2016.**

**Iles/Marr  
CARRIED**

## **8 Reports**

### **8.1 Road safety improvements, Ohope to Opotiki**

*Refer PowerPoint Presentation Objective ID A2570779.*

Safe Roads Project Team members Justin Rae and Kirsten Simpson were in attendance to present an update on road safety issues and potential safety upgrades associated with Wainui Road and State Highway 2 between Ōhope and Ōpōtiki.

Ms Simpson advised of key safety issues, community engagement and feedback being undertaken, investigation into a range of options to make the road safer and possible timelines for ongoing community engagement, design development and build.

Clarification was provided on cost and feasibility of options. Members asked the Safe Roads Team to consider seeking feedback from tourists via tourist operators, installing speed cameras and more double lines on corners, appropriate landscape options within the design build and for the Safe Roads team to work with the Ōhiwa Harbour Strategy Coordination Group on wider aspects.

## **Resolved**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the presentation by the New Zealand Transport Agency Safe Roads Team.**

**Iles/Ransfield  
CARRIED**

## **8.2 Ōhiwa Harbour Catchment Work Programme**

*Refer PowerPoint Presentation Objective ID A2570780.*

The report was provided by Land Management Officer Tim Senior and updated the Forum on the progress of the Ōhiwa Harbour Catchment Work Programme 2016-2017 and sought endorsement of the Ōhiwa Harbour Catchment Work Programme 2017-2018.

Mr Senior highlighted key points from the report, including improved numbers in bitterns and fernbird surveyed, continuation of extensive pest control at a number of sites, notable reduction in vehicles on pipi beds following the installation of vehicle signage and redevelopment of Ōhope Wharf, scheduled to be completed by the end of the year. Regarding mangrove removal, he advised that community involvement had been erratic and that alternative options were being explored. Investigations were also progressing to utilise Council's hovercraft.

Comment was raised on the challenges of prosecution under the vehicle bylaw. It was noted that the Regional Council and Whakatāne District Council had a combined pest control strategy in the Ōhope Reserves with the Department of Conservation, which was generously supported by Te Rūnanga o Ngāti Awa.

## **Resolved**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the report, Ōhiwa Harbour Catchment Work Programme.**
- 2 Endorse the Ōhiwa Harbour Catchment Work Programme 2017-2018.**

**Riesterer/Kora  
CARRIED**

### 8.3 **Restoration of Shellfish Populations and Seastar Management in Ōhiwa Harbour**

*Refer PowerPoint Presentation Objective ID A2564461*

The report provided an overview of phase two of the mussel management action plan (MMAP) and sought endorsement on a set of proposed actions for shellfish restoration and development of best practice seastar management in Ōhiwa Harbour.

In Dr Kura Paul-Burke's absence, Land Management Officer Tim Senior provided background on the 2016 findings, recommendations and consultation undertaken that had informed the proposed actions.

Comment was raised on the need for further science, which would take time and funding. An opportunity for a science marine research post-graduate study was raised for consideration. It was noted that Dr Paul-Burke was investigating establishing a science project with Auckland University and that the proposal submitted to the Ministry of Business of Innovation and Employment would provide an opportunity to collaborate on science monitoring. Members were informed that overseas and existing research had been compiled and documented and could be provided to members on request.

#### **Resolved**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the report, Restoration of Shellfish Populations and Seastar Management in Ōhiwa Harbour.**
- 2 Endorses the proposed actions, outlined in section 4 of the report.**

**Bluett/Marr  
CARRIED**

### 8.4 **Onekawa Te Mawhai Regional Park Update**

*Refer PowerPoint Presentation Objective ID A2564307*

Land Management Officer Tim Senior provided the report that updated the Forum on activity within Onekawa Te Mawhai Regional Park. Mr Senior highlighted the recent expansion to the park, improvements made to visitor facilities, ongoing re-vegetation work and future work planned within the park.

Comment was raised regarding a potential tenancy opportunity of one of the residential dwellings within the park, which was noted accordingly by staff.

#### **Resolved**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the report, Onekawa Te Mawhai Regional Park Update.**

**Riesterer/Kohunui  
CARRIED**

## 8.5 Nga Haerenga Cycle Trails - Great Ride Extensions

Ōpōtiki District Council Community Facilities Manager Mike Houghton and Whakatāne District Council Manager Open Spaces Mike Naude presented the report that sought in-principle support for the proposal to extend the Mōtū Trails Cycle Trail from Ōpōtiki to the Whakatāne Airport, with part of the proposed route to pass through the Ōhiwa Harbour environment. Background was provided on the proposal, which had received preliminary support from the Ministry for Business, Innovation & Employment (MBIE) for funding as part of their New Zealand Cycle Trail's (NZCT) Extension and Enhancement project.

Members were informed that a second revised proposal was lodged with NZCT the previous week. It was explained that the proposed route would involve a 17 km (off road) trail west of Ōpōtiki to the Ōhiwa Loop Road boat ramp; crossing Ōhope Harbour by ferry to Port Ōhope Wharf; to link with the (yet to be constructed) Ōhope Harbourside Trail. Mr Houghton and Mr Naude acknowledged the proposal was ambitious, would have some challenges and require a number of resource consents. If the proposal was accepted to proceed to the next stage, a feasibility study would be carried out to assess its viability and funding from MBIE.

It was clarified that maintenance of the trail would rest with the relevant district council. A Governance group comprised of the district councils, Iwi and Mōtū Trails Charitable Trust would be responsible for marketing.

While disappointment was expressed that the maps describing the proposal were not available, in-principle support was shown for the proposal.

### MOTION

**Moved: Councillor Iles**

**Second: Councillor Riesterer**

**Supports in principle, the proposal to extend the Mōtū Trail journey to the Whakatāne Airport where it passes through the Ōhiwa Harbour environment.**

A **SHOW OF HANDS** was requested and recorded as follows:

<b>For the Motion</b>	<b>5</b>
<b>Against the Motion</b>	<b>2</b>

The MOTION was **CARRIED**.

### Resolved

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the report, Nga Haerenga Cycle Trails - Great Ride Extensions.**
- 2 Supports in principle, the proposal to extend the Mōtū Trail journey to the Whakatāne Airport where it passes through the Ōhiwa Harbour environment.**

**Iles/Riesterer  
CARRIED**

## 8.6 Bay of Plenty Regional Navigation Safety Bylaw 2017

*Refer PowerPoint Presentation Objective ID A2564194*

The report was presented by Senior Planner Shawn Baker and provided an update on the adoption of the Navigation Safety Bylaw.

### Attendance

Councillor Iles exited the meeting at 12:42 pm.

Members were informed of the Bylaw's review process and its adoption by the Regional Council on 14 February to enable maritime regulations to be passed by Parliament and made operative on 1 July 2017. Mr Baker highlighted the key changes made to the Bylaw that affected Ōhiwa Harbour, as outlined in the report. It was noted that Maritime New Zealand were considering making potential changes for compulsory wearing of life jackets for water crafts under six metres, including jet skis. It was clarified that the Personal Water Craft designated area on the presentation map was for the jet ski zone located at Maraetōtara in Ōhope.

### Attendance

Councillor Iles entered the meeting at 12:52 pm.

The visibility of maritime patrols within the harbour was raised. Mr Baker confirmed that a funding increase had been sought in the Regional Council's Annual Plan process for additional harbour patrols. He advised Ōhiwa Harbour was currently unpatrolled, although there were voluntary wardens that operated on Ōhiwa Harbour. It was noted that recommendations outside the scope of the Bylaw would be considered for future changes to the Bylaw rules, such as having reserved areas to accommodate new practices on the water.

### Resolved

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the report, Bay of Plenty Regional Navigation Safety Bylaw 2017.**

**Ransfield/Kora  
CARRIED**

### Attendance

Councillor Iles exited the meeting at 1:01 pm.

## 9 General Business

### 9.1 Toi Te Ora Public Health Warnings and status of water quality at Waiōtahe

An update was requested on the status of water quality issues and Toi Te Ora Public Health warnings for paralytic shellfish poisoning at Waiōtahe pipi beds.

At the time of the meeting, two health warnings were in place for paralytic shellfish poisoning (PSP) that originated from oceanic algal blooms and bacterial contamination, originating from the river. Monitoring of PSP was performed by the Ministry for Primary

Industries and bacterial contamination monitoring was undertaken by the Regional Council. Potential factors contributing to the water quality issues could be due to paddock run-off, wildlife and feral animals. DNA sampling and monitoring at different sites were raised as ways of identifying hot spots and source contaminants. It was noted that ongoing work was occurring with farmers on nutrient management, riparian fencing and planting of river margins and drains.

Comment was made that this was the first time Te Rūnanga o Ngāti Awa had not issued permits for taking of shellfish as a duty of care as kaitiaki, to make Iwi and hapū members aware of the health risks. An observation of discolouration at Waiōtahe Stream over a long term period was noted from the floor by local kaumatua.

## 9.2 **Local Government New Zealand Environmental Award presentation**

Eastern Catchments Manager Simon Stokes advised that at the last Forum meeting on 12 September 2016, members requested that the Local Government New Zealand's Air New Zealand Excellence Award for Environmental Impact (highly commended) Certificate of Award for recognition of environmental improvement in the Ōhiwa catchment, be shared with Forum partners.

Mr Stokes informed that copies of the Certificate of Award had been provided to all partners, except for Te Waimana Kaaku, which he now wished to present to member Rachel Kora. Members and Ms Kora acknowledged and thanked Mr Stokes for the presentation of the award.

## 10 **Closing karakia**

Provided by Bruce Pukepuke.

**The meeting closed at 1:17 pm.**





# Reports



**Receives Only – No Decisions**



**Report To:** Ōhiwa Harbour Implementation Forum

**Meeting Date:** 12 September 2017

**Report From:** Simon Stokes, Eastern Catchments Manager

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## **Ohiwa Harbour Catchment Annual Work Programme Results for 2016-17**

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### **Executive Summary**

The purpose of this report is to provide a summary of the work carried out in the Ōhiwa Harbour Strategy Catchment Annual Work Programme 2016-17. Out of the 44 deliverables in the work programme, 26 have been completed, 10 have been completed but are ongoing, 5 are in progress and 3 were not completed. Much of the work is on-going in nature and contributes to a long term vision for the harbour and significant progress has been made this year in the areas of water quality improvement, recreation and pest control.

### **Recommendations**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the report, Ōhiwa Harbour Catchment Annual Work Programme Results for 2016-17;**

### **1 Background**

The Ōhiwa Harbour Strategy (The 'Strategy') covers the Ōhiwa Harbour and its land catchment area. The purpose of this report is to inform the Ōhiwa Harbour Implementation Forum (The Forum) of the work carried out over the 2015-16 year against the deliverables set out in the agreed annual work programme.

The work programme for the coming year is presented to the Forum every March for endorsement prior to the beginning of the financial year and is reported on every September/October. This full report is also presented to the Bay of Plenty Regional Council. An interim progress report is also presented to the Forum twice a year as an update.

The Strategy is a non-statutory document that was prepared by the Strategy partners: Whakatāne District Council, Ōpōtiki District Council, Ngati Awa, Upokorehe, Whakatōhea, and Ngāi Tūhoe represented by Te Waimana Kaaku, and the Bay of

Plenty Regional Council. The Strategy was formally approved in June 2008 and a refreshed Strategy was adopted in March 2016.

Planning and coordination of operational work undertaken is overseen by the Ōhiwa Harbour Strategy Coordination Group (OHSCG) where all partners have representation.

Funding for the delivery of this work is from the existing budgets of the strategy partners. It's also important to note that landowners and community groups make a substantial contribution, either in cash or in kind, to many of the actions.

## **2 Key Achievements**

Key achievements over the last year are highlighted below. A table showing all the results against the deliverables for the year is presented in appendix 1. Out of the 44 deliverables in the work programme, 26 have been completed, 10 have been completed but are ongoing, 5 are in progress and 3 were not completed. Un-programmed work was also carried out under a number of Strategy actions. There has been a particular focus this year on working towards some of the longer term goals with significant progress made in the areas of water quality improvement, recreation and pest control in particular.

### **2.1 Action 1.1**

Consultant Alison Dewes has been working with a group of dairy farmers in the catchment to investigate improvements that can be made to farm management with a particular focus on nutrient management. The farmers are very engaged and it's expected that this work will lead to reduced nutrient leaching into streams and the harbour over time.

### **2.2 Action 1.2**

2.65km of riparian fencing have been completed in the Nukuhou catchment. A further 1.2km of riparian and wetland fencing has been completed elsewhere in the Ōhiwa catchment. Further fencing is currently in progress. 250 poplar poles and 1000 shrub willow poles were planted to assist with erosion control in the Nukuhou catchment.

### **2.3 Action 1.5**

Tanja Rother has been contracted to run the working bees. Eight working bees were held. After re-clearing new seedlings in some areas cleared in previous years, a large new area was cleared along Wainui Rd between the oyster farm and Paparoa Rd.

### **2.4 Action 1.7**

Owners of a block by the S-bends on Wainui Rd are re-creating a meandering stream and wetlands and planting 5500 natives in a previously bare 2.5ha paddock with a channelized stream. Inanga have already been seen in the new wetland areas.

### **2.5 Action 1.8**

Rare plants in the catchment have been re-surveyed (see later agenda report). Kiwi monitoring has taken place on the eastern side of the harbour with one male kiwi being identified and another bird possibly being heard. Bittern monitoring has confirmed the presence of 7 male birds (it's assumed there will also be a number of females present

but they can't be counted as they don't call). Black swan numbers continue to rise with 60 being counted last summer. This is of concern as swans eat the seagrass which is a key component of the harbour ecosystem. Fish and Game are interested in carrying out further research into their movements and habits.

## **2.6 Action 1.9**

The Ruatuna/Pukeruru care group have extended their pest control (with still more are planned for control). A new care group has been formed on Reeves Rd (the Hurike care group) and have begun pest control and planting around the lagoon. The effectiveness of pest control is shown on Uretara Island with fern bird numbers increasing from 10 in 2014 to 42 in 2016.

## **2.7 Action 1.14**

The erection of signs reminding people that vehicles on the mudflats are prohibited have successfully resulted in people not driving out to collect pipi. The new Regional Navigation Safety Bylaw is now in place and requires the registration of jet skis which will aid the policing of their activities.

## **2.8 Action 2.1**

Kura and Joe Paul Burke of Musa Dive completed the last of a series of mussel surveys, finding that the mussel beds on both sides of the harbour was considerably reduced, apparently largely as a result of sea star predation. This led to the development of a plan to carry out trail work to investigate methods for re-establishing the mussel beds. This requires the use of cages and as structures, requires a resource consent.

## **2.9 Action 3.1**

The development of a recreation strategy is underway with a first draft being considered at the May workshop. This is an important initiative which will ensure the coordinated planning for recreation in the harbour into the future.

## **2.10 Action 3.4**

A further 9.4ha of regenerating bush has been added to the Onekawa Te Mawhai Regional Park. This will allow the development of a further loop track through the park.

## **2.11 Action 3.5**

The development of the signage for the heritage trail has progressed with the first set of draft sign designs being produced and discussed at the May workshop. It has also been agreed that the text will be bi-lingual which entails some re-drafting. A logo for the trail has also been agreed to.

## **2.12 Action 3.11**

The Ōhiwa Headland Sanctuary Trust have now deployed 140 DOC200 traps around the headland and 140 rat traps in every household's backyard. BOPRC, WDC, DOC, Ngati Awa and the Ōhope golf club now have a biodiversity management plan in place at the Ōhope Spit which will see comprehensive pest control in place throughout the spit reserves shortly.

### **2.13 Action 3.13**

The NZ Transport Agency has carried out considerable public engagement about upgrading the safety of Wainui Rd and SH2 between Ōhope and Ōpōtiki and their proposed safety mitigation options will be presented to the community later this year.

### **2.14 Other work**

Terms of reference have been created for the Ōhiwa Harbour Strategy Coordination Group. The environmental work carried out by the Strategy partners was highly commended in an entry to the Local Government NZ awards earlier in the year.

## **3 Implications for Māori**

As committed kaitiaki of the harbour and partners to the strategy, the four local iwi were fully engaged in both the development of strategy, its refresh in 2014 and its subsequent implementation. Their mana whenua is a corner stone of the strategy and is the basis of many of the strategy actions. Individual iwi representatives are regularly consulted with regarding many aspects of the work and staff from the councils often attend iwi and hapū hui. In particular over the last year the iwi partners have had considerable input into mangrove management, mussel monitoring and the heritage trail development.

## **4 In Summary**

Behind the achievements outlined above is fantastic goodwill in the community generally. There is a huge and ever increasing voluntary contribution made by farmers improving their farm environmental footprint, care groups expanding their work with literally thousands of hours of hard work and many individual landowners making their contributions in all sorts of ways to keep the harbour and its catchment special. Māori at the iwi, hapū and individual level continue to demonstrate their active kaitiakitanga of the harbour. The ever increasing use of the website and uptake of the newsletter also demonstrate the ever increasing interest and engagement in the work.

Tim Senior  
**Land Management Officer**

**for Eastern Catchments Manager**

**5 September 2017**

## **APPENDIX 1**

### **Ohiwa Harbour Strategy Annual Work Programme Report for 2016-17**





## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
<b>Action Area 1. Catchment Management</b>					
1.1	Improve water quality into the Ohiwa Harbour	Ongoing	<ul style="list-style-type: none"> <li>Hold nutrient management workshop for Nukuhou farmers</li> </ul>	Completed	<ul style="list-style-type: none"> <li>Nutrient management workshop was led by consultant Alison Dewes from Tipu Whenua. About 30 people attended.</li> <li>This has led to Alison doing a full assessment of nutrient management on 8 farms and investigating ways that those farmers can improve their systems and management (and save \$\$ at the same time). Farmers have met to discuss results and plan further work accordingly. It became clear that there is a need to improve the quality and accuracy of the data going into the model.</li> </ul>
1.2	Reduce sedimentation within the catchment	Ongoing	<ul style="list-style-type: none"> <li>Deliver 2 kms new riparian fencing in Nukuhou catchment</li> </ul>	Completed	<ul style="list-style-type: none"> <li>2.65km of stream has been fenced in the Nukuhou catchment.</li> <li>250 poplar poles, 1000 shrub willow poles planted.</li> <li>Summer student has completed ground truthing riparian fencing in the catchment.</li> <li>1.2km fencing and planting of small wetlands on farm on Reeves Rd completed.</li> <li>2000 natives being planted this winter.</li> <li>4ha being converted to pines this winter.</li> </ul>
			<ul style="list-style-type: none"> <li>Complete Japanese walnut removal from lower catchment, landowners permitting</li> </ul>	Incomplete	One key landowner at Matekerepu not willing to allow trees to be removed on his property but follow up control has been undertaken in the upper catchment above Matekerepu.
1.3	Reduce contamination from urban activities	Ongoing			
1.4	Encourage the introduction and use of farm stewardship plans	Ongoing	<ul style="list-style-type: none"> <li>Hold 2 meetings with Nukuhou farmers group</li> </ul>	Completed	<p>Only one meeting was held but:</p> <ul style="list-style-type: none"> <li>Several DairyNZ discussion groups have been held.</li> <li>Many member of this group are involved in the nutrient management group (see 1.1)</li> <li>A riparian protection field day has been held.</li> <li>Field trip to see farms with best practice riparian protection.</li> </ul>

## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
1.5	Manage mangroves in line with the resource consent held by Te Upokorehe	30/12/2020	<ul style="list-style-type: none"> <li>Hold 6 working bees to remove mangrove seedlings and complete annual report</li> </ul>	Completed	Tanja Rother has been contracted to run the working bees. 8 working bees have been held. The first was held on Nov 26th at Ruatuna Rd with 25 people attending. Here past work was revisited to clear re-growth. Subsequent working bees attracted lower turnout but with some new faces. Large area adjacent to Wainui Rd opposite Paparoa Rd has been cleared. Mapping is yet to be completed.
1.6	Investigate classifications for Ōhiwa Harbour to reflect its special ecological character	On hold			
1.7	Protect and enhance wetlands, saltmarsh and estuarine margins and explore opportunities to construct new areas	Ongoing	<ul style="list-style-type: none"> <li>Implement Yr5 Nukuhou Saltmarsh/ Uretara BMP and review BMP for further 5 yrs. (see also 1.9)</li> </ul>	Completed	See also 1.9 - Usual bird monitoring and predator and weed control continuing. Annual report completed - Red eared slider caught by whitebaiter in the Nukuhou River.
					- Owners of block at S bends (Shane Cottle and Marli Dee) have completed earthworks to transform bare paddock with straightened stream into planted wetland with meandering stream with 50% funding from BOPRC. Planting is taking place this winter. - As the salt intrusion and subsequent expansion of saltmarsh increase around a stream at Kutarere, a landowner has been forced to retire about 5ha of grazing and orchard.
1.8	Monitor and assess the health of Ohiwa Harbour and its catchment	Ongoing	<ul style="list-style-type: none"> <li>Carry out monitoring/ management of rare plants</li> </ul>	Completed	This survey has been completed. A few plants were not able to be found. Populations of most plants have increased so there is little need to establish new populations as was earlier thought to be necessary.

## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
			<ul style="list-style-type: none"> <li>Undertake Pukeruru kiwi monitoring</li> </ul>	Completed	<ul style="list-style-type: none"> <li>An informal survey has found evidence of kiwi. Formal monitoring by listening and using audio recorders has been completed by DOC and people from local community. This has located one male kiwi in reserve behind boat ramp and possibly a female towards Reeves Rd but difficult to distinguish from weka. Further attempts will be made to confirm the female.</li> </ul>
			<ul style="list-style-type: none"> <li>Complete annual monitoring summary</li> </ul>	Completed	<ul style="list-style-type: none"> <li>Monitoring summary for last year (2015/16) completed.</li> <li>Summary for 2016/17 is underway.</li> </ul>
1.9	Protect and manage habitat and species	Ongoing	<ul style="list-style-type: none"> <li>Implement Yr5 Nukuhou Saltmarsh/Uretara BMP (see also 1.7)</li> </ul>	Completed	<p>See also 1.7</p> <ul style="list-style-type: none"> <li>Spring baiting (pindone) of Uretara has been done. Fernbird monitoring on the island has shown doubling of fernbird every year since pest control began. Numbers have increased from 10 in 2014 to 42 in 2016.</li> <li>Lots of trees down in storm to be cleared. Rat tracking shows no or very few rats on Uretara Island. Annual report completed. AGM held 21st May. New Care Group plan drafted.</li> <li>Nearly 1100hrs of volunteer time contributed.</li> </ul>
			<ul style="list-style-type: none"> <li>Implement Yr2 Ruatuna/Pukeruru EEF</li> </ul>	Completed	<ul style="list-style-type: none"> <li>This group have now been signed up with BOPRC as care group. Trap/bait station network around lagoons is being extended. Planting completed.</li> <li>Group now has 29 DOC200's, 29 bait stations and 4 cat traps. Carried out harbour clean-up and held kiwi aversion training for local dogs.</li> </ul>
			<ul style="list-style-type: none"> <li>Implement Yr 2 Kutarere Sch EEF</li> </ul>	Completed	<ul style="list-style-type: none"> <li>Planting area has been prepared and planting completed.</li> </ul>
			<ul style="list-style-type: none"> <li>Implement pest control by Ohiwa Reserves CG</li> </ul>	Completed	<ul style="list-style-type: none"> <li>Spring baiting (pindone) completed on Whangakopikopiko and Ōhiwa Domain.</li> <li>Shore bird breeding poor this year. Natural erosion is washing away many nesting areas.</li> </ul>

## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
			<ul style="list-style-type: none"> <li>Implement pest control Onekawa Te Mawhai Regional Park</li> </ul>	Completed	- Spring baiting (pindone) completed.
			<ul style="list-style-type: none"> <li>Implement control of selected weeds under RPMP</li> </ul>	Incomplete	- Biosecurity budget constraints and contractor availability have meant that this work could not be carried out.
			<ul style="list-style-type: none"> <li>Increase area of harbour margin covered by pest control</li> </ul>	Completed	<ul style="list-style-type: none"> <li>Hurike care group has been set up under leadership of Hori Barsdell.</li> <li>20 DOC200's have been deployed around inlet margin. 24 rats caught in first 2 months. Prep spraying for planting completed.</li> <li>Also note work at Ohope spit and Ohiwa sanctuary, both of which will add to harbour margin under pest control (see 3.11)</li> </ul>
			<ul style="list-style-type: none"> <li>Implement weed control on DOC reserves</li> </ul>	Completed	- Work completed by DOC.
			<ul style="list-style-type: none"> <li>Implement shore bird management</li> </ul>	Completed	- DOC have fenced off dotterel nesting sites and trapping carried out with volunteer assistance. Nesting this season has not been very successful owing to king tides and storm surges at critical times.
					- 60 black swans recently counted on seagrass beds. Numbers appear to be rising every year. As a result of further representations to Fish and Game, they have said that further research is necessary to prove that there's a problem.
					<ul style="list-style-type: none"> <li>BOPRC staff met with Emma Williams, DOC's bittern expert. She is going to devise a plan to find out more about them here and what can be done to protect them.</li> <li>DOC have deployed 10 remote sound recorders to gather more data about bittern presence. 7 different males recorded.</li> </ul>

## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
1.10	Investigate the presence of indigenous freshwater fish species and identify opportunities to manage	Ongoing			- BOPRC worked with 2 landowners to improve tide gates and plant streams/drains for benefit of migratory fish.
1.11	Investigate the potential impacts of climate change on the Ohiwa Harbour	30/06/2019			
1.12	Support appropriate regional, district and iwi plan provisions to achieve sustainable management of the Ōhiwa Harbour and catchment	Ongoing	<ul style="list-style-type: none"> <li>Ensure provision of appropriate rules for ODC district plan review</li> </ul>	In progress	<ul style="list-style-type: none"> <li>Submissions closed. BOPRC made submission concerning Ōhiwa zone to ensure match with WDC plan provisions. Hearings to take place soon.</li> <li>Most of the proposed RCEP is now operative.</li> </ul>
1.13	Develop data sets to augment resource management protocols	30/06/2020			
1.14	Support and implement consenting, bylaw and statutory responsibilities	Ongoing			<ul style="list-style-type: none"> <li>Rotary have submitted their consent application for the Ōhope trail which has been granted with some conditions.</li> <li>Submissions to Nav bylaw appear to be in favour of registering jet boats and naming of vessels. About even for tighter restrictions on wearing lifejackets.</li> <li>Unauthorised jetty has been built on Ohiwa Harbour Rd. Tim and BOPRC. BOPRC compliance team are ensuring its removal. Jetty has reappeared and further warning of removal given.</li> <li>ODC have erected signs at access point in response to people driving on mudflats to pipi bed. This was successful in stopping this.</li> </ul>

## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
<b>Action Area 2. Harbour Management</b>					
2.1	Investigate shellfish populations and advocate for their sustainable management	Ongoing	<ul style="list-style-type: none"> <li>Assess results of mussel monitoring and consider phase 3 options. Continue monitoring</li> </ul>	In progress	- Mussel survey completed. Musa Dive consultants prepared a proposal as to where to next, which involves some small scale trials using cages to contain the mussels. Other scientists and community are likely to be involved. The cages are structures which need a resource consent. Application for this is underway.
			<ul style="list-style-type: none"> <li>Regularly monitor kaimoana collection esp during summer</li> </ul>	Completed and ongoing	- MPI have been engaged in the new pipi issue, have visited site and the situation will need to be monitored carefully.
2.2	Investigate wetfish populations and advocate for their sustainable management	Ongoing	<ul style="list-style-type: none"> <li>Respond to fisheries issues and advocate to MPI as required</li> </ul>	Completed and ongoing	- Eugene Hunia attended OHSCG.
2.3	Support mahinga mataitai status for Ōhiwa Harbour	Ongoing			
<b>Action Area 3. People and Communities</b>					
3.1	Develop and implement a recreation strategy	30/06/2017	<ul style="list-style-type: none"> <li>Develop a recreation strategy</li> </ul>	In progress	<ul style="list-style-type: none"> <li>Initial discussions held involving BOPRC, ODC, WDC and DOC. Heather Hamerton engaged as consultant. 1st draft text completed by Heather. 2<sup>nd</sup> draft is now in progress using the feedback from the May workshop.</li> <li>Rotary have applied for and gained resource consent for Ōhope harbourside trail. Now awaiting designs for construction. Funding applications will then be prepared.</li> </ul>
3.2	Promote awareness of the cultural heritage of Ōhiwa Harbour	Ongoing	<ul style="list-style-type: none"> <li>Incorporate Māori placenames and stories on signage wherever appropriate</li> </ul>	Completed and ongoing	<ul style="list-style-type: none"> <li>Consideration being given to incorporating as much Te Reo as possible in all new signs.</li> <li>Heritage trail signage will be bi-lingual.</li> </ul>

## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
3.3	Recognise and apply the principles of kaitiakitanga and stewardship in management of the harbour and its catchment	Ongoing	<ul style="list-style-type: none"> <li>Seek opportunities to promote kaitiakitanga and stewardship</li> </ul>	Completed and ongoing	<ul style="list-style-type: none"> <li>One person interested in becoming a volunteer harbour warden volunteer has put their hand up.</li> </ul>
3.4	Retain Onekawa Te Mawhai Regional Park and manage according to the park management plan	Ongoing	<ul style="list-style-type: none"> <li>Implement the Onekawa Te Mawhai annual plan</li> </ul>	Completed	<ul style="list-style-type: none"> <li>Domain walking track has been upgraded by ODC/BOPRC.</li> <li>9.4 ha of mostly regenerating bush have been purchased to add to the park. This will allow the development of a new walking track. Purchase completed and development is underway.</li> <li>Large numbers of visitors to park over summer.</li> <li>Upokorehe have given their approval for an archaeological mapping exercise by Otago University.</li> <li>The remaining tenant has relinquished her tenancy and is in the process of moving out.</li> </ul>
			<ul style="list-style-type: none"> <li>Decide on use of vacant building</li> </ul>	In progress	<ul style="list-style-type: none"> <li>Discussions held with BOPRC corporate GM. Building is likely to be developed as a meeting/workshop space. Awaiting structural engineering advice from BOPRC.</li> </ul>
3.5	Ensure information distribution (including signage around the harbour) is current, appropriate and coordinated	Ongoing	<ul style="list-style-type: none"> <li>Complete and install 1st and 2nd theme of heritage trail interpretation</li> </ul>	In progress	<ul style="list-style-type: none"> <li>Tanja has been employed on contract to assist with progressing this.</li> <li>Signs are well underway and some draft designs are complete. Translations into Te Reo are in progress along with discussions about how to display 2 versions.</li> </ul>
					<ul style="list-style-type: none"> <li>Tanja Rother has begun working with agencies to progress the 'instructional' signage rationalisation as per Sarah's recommendations in her signage upgrade report.</li> </ul>
3.6	Continue to implement comms/education plan	Ongoing	<ul style="list-style-type: none"> <li>Complete 4 newsletters</li> </ul>	Completed	<ul style="list-style-type: none"> <li>4 newsletters completed Sept, Dec, Mar, June.</li> </ul>
			<ul style="list-style-type: none"> <li>Complete 4 OHSCG minutes summaries</li> </ul>	Completed	<ul style="list-style-type: none"> <li>4 summaries completed. Sept, Dec, Mar, June.</li> </ul>
			<ul style="list-style-type: none"> <li>Complete 4 web page updates</li> </ul>	Incomplete	<ul style="list-style-type: none"> <li>2 updates completed. This is a difficult exercise now that contractors are not allowed access to the website.</li> </ul>

## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
			<ul style="list-style-type: none"> <li>Hold 1 community social event</li> </ul>	Completed	- Xmas community lunch held.
					- Ōhiwa project was highly commended at LGNZ awards.
3.7	Develop a coordinated approach to, and implement management of, public reserves	Ongoing	<ul style="list-style-type: none"> <li>Carry out maintenance of reserves</li> </ul>	Completed and ongoing	- ODC have installed public toilet at Ōhiwa spit. Toilet and carpark area at Ōhiwa spit have been completed and landscaped.
					- WDC continuing planning process for Ōhope wharf and reserve redevelopment.
3.8	Support the implementation of regulations for controlling vehicles on tidal flats and beaches	Ongoing	<ul style="list-style-type: none"> <li>WDC and ODC implement bylaws</li> </ul>	Completed and ongoing	- BOPRC and Devon St George (ODC compliance) have been dealing with people driving onto mudflats to collect (probably too many) pipi. Devon has erected vehicles prohibited signs. Monitoring suggests that the signs have worked and there is no evidence of vehicles on mudflats now.
3.9	Support appropriate harbour and catchment research opportunities	Ongoing	<ul style="list-style-type: none"> <li>Discuss opportunities for research with Awanuiarangi</li> </ul>	Incomplete	- The environmental course has been suspended this year so this has not been possible.
3.10	Develop protocols between the Ōhiwa partners and other statutory agencies	Ongoing			
3.11	Support the work of landowners and community groups	Ongoing	<ul style="list-style-type: none"> <li>Provide support as required to groups as in 1.9</li> </ul>	Completed and ongoing	- 400 native plants planted at Nukuhou North School.
			<ul style="list-style-type: none"> <li>Provide support to landowners as and when required</li> </ul>	Completed and ongoing	<ul style="list-style-type: none"> <li>Biodiversity management plan for Ringatu Trust at Wainui Marae has now been signed.</li> <li>Advice and support with pest control provided to numerous landowners</li> </ul>



## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
			<ul style="list-style-type: none"> <li>Provide support for BirdsAPlenty festival</li> </ul>	Completed	<ul style="list-style-type: none"> <li>Festival begins in September. BOPRC and others assisting.</li> <li>Introduction and catering provided for evening talk and materials and BBQ provided for 'The Flock' bird painting event at Ōhiwa Spit.</li> </ul>
			<ul style="list-style-type: none"> <li>Provide plants for community planting initiatives</li> </ul>	Completed and ongoing	<ul style="list-style-type: none"> <li>None requested.</li> </ul>
					<ul style="list-style-type: none"> <li>Ōhiwa Headland Sanctuary trust have set out 140 DOC 200 traps and have now purchased Sentinel possum traps. Funding for this came from the local community.</li> <li>140 rat traps have been funded by Kiwibank Predator Free Communities. These have been deployed in virtually every backyard at Bryan's Beach and Ōhiwa.</li> </ul>
					<ul style="list-style-type: none"> <li>BOPRC, WDC, DOC, Ngāti Awa and the Ōhope golf club have combined forces to carry out pest control on the Ōhope Spit. Monitoring has shown high numbers of rats and rabbits. A bait station and trap network for rats and stoats is being planned and a pindone operation will be used to kill rats and rabbits next month.</li> </ul>
3.12	Support the involvement of local people in education initiatives and in the management of the Ōhiwa Harbour and its catchment	Ongoing	<ul style="list-style-type: none"> <li>Provide support to local school work at Ōhiwa</li> </ul>	Completed and ongoing	<ul style="list-style-type: none"> <li>Trident HS geography students taken on field trip to examine mangrove management.</li> </ul>
3.13	Advocate for health and safety within the harbour and catchment	Ongoing			<ul style="list-style-type: none"> <li>Consultation in progress with NZTA concerning safety improvements on Wainui Rd. Presentation to OHSCG (December) and OHIF (March).</li> <li>Public meeting held Waiōtahe Hall (March). Shortlist of remediation options being prepared.</li> </ul>

## Ōhiwa Harbour Strategy Annual Work Programme report to 30 June 2017

OHS Action no.	Action Title	Completion date	Deliverable 2016-2017	Progress	Notes. Results to May in black. Results to June in red
<b>Other / admin</b>					
	Admin (meetings, preparation etc.)		• Hold 4 OHSCG hui	Completed	- 4 OHSCG hui held August, December, February, May
			• Hold 2 OHIF hui	Completed	- 2 hui held (September, March)
			• Hold 2 OHIF/OHSCG workshops/field trips	Completed	- 1 field trip held (December) and 1 workshop held (May)
			• Create TOR for OHSCG	Completed	- TOR completed and endorsed by OHIF (March)

# **PRESENTATION - Ohiwa Harbour Catchment Annual Work Programme Results 2016-2017**



**Receives Only – No Decisions**



**Report To:** Ōhiwa Harbour Implementation Forum

**Meeting Date:** 12 September 2017

**Report From:** Simon Stokes, Eastern Catchments Manager

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## **Ohiwa Harbour Catchment Annual Work Programme 2017-2018 Update**

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### **Executive Summary**

The purpose of this report is to update the Ōhiwa Harbour Implementation Forum on the progress towards implementing the deliverables against the Ōhiwa Harbour Strategy Catchment Annual Work Programme for 2017-2018. Work is currently focused in the recreation and science spheres. Note is also made of some regional council initiatives relevant to the Forum.

### **Recommendations**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the report, Ōhiwa Harbour Catchment Annual Work Programme 2017-2018 Update;**

### **1 Background**

The Ōhiwa Harbour Strategy (The 'Strategy') covers the Ōhiwa Harbour and its land catchment area. The purpose of this report is to update the Ōhiwa Harbour Implementation Forum (The Forum) on the progress against the annual work programme deliverables from 1<sup>st</sup> July 2016 to 30<sup>th</sup> August 2016. A progress report is written and presented to the Forum twice a year. A full annual report on the implementation of the work programme for the previous year is presented to the Forum each September/October.

Planning and coordination of operational work undertaken is overseen by the Ōhiwa Harbour Strategy Coordination Group (OHSCG) where all partners have representation.

### **2 Key Achievements**

Key achievements since the beginning of this financial year are highlighted below. A table showing all the results against the deliverables to date is presented in Appendix

1. The focus of work at present is to complete the Recreation Strategy, begin rolling out the Heritage Trail signage and get the mussel restoration trials underway.

## **2.1 Action 1.1**

Farmers are currently working through their data from last financial year with the farm consultant Alison Dewes and each other to study their farms systems and get feedback on the financial and environmental performance from their peers and an expert.

It is expected that improved understanding of nutrients, how they behave and their impact the environment, better understanding of soil types and their role and the use of Overseer will lead to better fertiliser management and reduced nutrient and soil loss to water, improved riparian protection, less bacterial contamination and improved soil fertility.

A report which will detail the consultant's recommendations and the advances being made will be available early in the New Year.

## **2.2 Action 1.2**

Another 1.8km of riparian fencing has been completed with another 4km planned during the year.

## **2.3 Action 1.4**

We now have a good long term record of water quality data from 6 monitoring sites in the Nukuhou catchment. It shows steady improvements in all parameters (sediment, nutrients, bacteria, dissolved oxygen and temperature). Discussion of this with a group of farmers has led to them requesting assistance to identify quick and easy actions they can take to reduce nutrient levels further.

## **2.4 Action 1.9**

New five year plans are being drawn up with all the care groups around the harbour. The area covered by pest control continues to expand. More detail is provided in the State of the Ōhiwa Harbour Environment interim report elsewhere in the agenda.

Bay of Plenty Regional Council (BOPRC) has recently updated its policy regarding the protection of High Value Ecological Sites. The sites now considered to be of high value in the Ōhiwa catchment are shown on the map in appendix 2. The grant rates available to landowners for protecting these sites have also been updated. BOPRC staff will, over time, work with landowners to ensure long term protection of these sites which consist largely of dune lands, saltmarsh, wetlands and.

## **2.5 Action 1.12**

Commissioners are currently hearing submissions to the Proposed Ōpōtiki District Plan. BOPRC has made a number of submissions largely around ensuring consistency with the now Operative Whakatāne District Plan provisions for the Ōhiwa Zone, the Proposed Regional Coastal Environment Plan and also with the intent of the Ōhiwa Harbour Strategy. These relate to integrated management, biodiversity values, earthworks, buildings, various farming activities and areas and sites of significance to Māori.

## **2.6 Action 2.1**

Consultant Andy Larsen has almost completed the resource consent application for the mussel re-establishment trials to be undertaken by Kura Paul-Burke. It's hoped that the trail work will begin very shortly.

## **2.7 Action 3.1**

A second draft of the Ōhiwa Recreation Strategy has been prepared to incorporate the feedback from the May workshop. This still needs further work before being reconsidered by OHSCG in November. The views of the community, as expressed in the recreation research and at the strategy refresh workshops, have been taken into account in the document. The intention is to bring a final draft back to the Forum next March for endorsement.

## **2.8 Action 3.4**

The tenant has moved out of the house in the regional park adjacent to Onekawa Pa. The house is structurally unsound and will be removed in the coming months. The house and curtilage will be remediated and returned to pasture. Upokorehe will be engaged in this process as a partner in the management of the park. Work is underway on the new addition to the Regional Park with the old mandarin orchard and some eucalypts being removed.

## **2.9 Action 3.5**

Further drafts of the interpretation signs for the heritage trail have been produced and translation into Te Reo Māori is now complete. Te reo now needs to be incorporated into the signs. The useful feedback from the May workshop has also been incorporated into this work. It is envisaged that the first stage of the signs will be in place by the coming summer.

## **2.10 Action 3.7**

Rotary have applied for funding to construct the Ōhope Harbour side trail. Pest control and planting will follow construction. More detail is provided by Rotary in their report elsewhere in the agenda.

# **3 Regional initiatives**

## **3.1 Region-wide Water Quantity Propose Plan Change 9**

Land managers take water from underground or from streams for a variety of uses. Proposed Plan Change 9 is the first step in a 2 step process to improve the way we manage and utilise water quantity in the region to ensure its sustainable use. Following notification in August 2016, the period for submissions and further submissions has finished. The submissions will now be considered through hearings by a panel of commissioners in November.

## **3.2 BOPRC Long Term Plan**

Consultation/engagement 2018-2028 Long Term Plan is scheduled to take place in **February-March 2018.**

Members of the Forum and the wider community are encouraged to take the opportunity to discuss with Councillors and staff long term planning aspirations including proposed work programmes, projects and associated budgets.

Staff intend to meet with Iwi specifically that have formal protocols/agreements with Council and will prepare guidelines outlining the key components of a good LTP submission.

## **4 Implications for Māori**

As committed kaitiaki of the harbour and partners to the strategy, the four local iwi were fully engaged in both the development of strategy, its refresh in 2014 and its subsequent implementation. Their mana whenua is a corner stone of the strategy and is the basis of many of the strategy actions. Individual iwi representatives are regularly consulted with regarding many aspects of the work and staff from the councils often attend iwi and hapū hui. In particular over the last two months, the iwi partners have had considerable input into mussel monitoring and the heritage trail development.

A Mātauranga Māori Framework has been in development by BOPRC staff and should be completed by December. It's hoped this will be very useful for us to be able to apply a Māori lens on our science and monitoring work

The next steps will involve testing prototype/tool with relevant staff (science, consents, land management, water policy and planners) as well as externals to see if it works in practice. Justice Joe Williams has agreed to assess the tool development.

## **5 In summary**

The community goodwill, engagement and contributions to the implementation of the strategy continue to grow. The work on several major projects is ongoing with the development of the recreation strategy to guide future development and the ongoing work with the farming community to improve water quality being fundamental to the wider wellbeing of the harbour and its catchment.

Tim Senior  
**Land Management Officer**

**for Eastern Catchments Manager**

**5 September 2017**



## **APPENDIX 1**

### **Ohiwa Harbour Strategy Annual Work Programme report to August 2017**



# Ōhiwa Harbour Strategy Annual Work Programme 2017/2018

OHS Action no.	Action Title	Completion date	Deliverable 2017-2018	Progress	Notes
<b>Action Area 1. Catchment Management</b>					
1.1	Improve water quality into the Ōhiwa Harbour	Ongoing	<ul style="list-style-type: none"> <li>Support farmers to implement outcomes from Tipu Whenua nutrient assessment</li> </ul>	In progress	- Farmers are currently working through their data from last financial year with consultant to identify possible improvements to their farm management and nutrient budgets.
1.2	Reduce sedimentation within the catchment	Ongoing	<ul style="list-style-type: none"> <li>Deliver 2kms new riparian fencing in Ōhiwa catchment</li> </ul>	In progress	- 1.8km fencing completed in Nukuhou catchment. Another 4km planned this year.
			<ul style="list-style-type: none"> <li>Complete Japanese walnut removal from lower catchment, landowners permitting</li> </ul>		
1.3	Reduce contamination from urban activities	Ongoing			
1.4	Encourage the introduction and use of farm stewardship plans	Ongoing	<ul style="list-style-type: none"> <li>Hold 2 meetings with Nukuhou farmers group</li> </ul>	In progress	- One meeting held. Water quality data discussed. Farmers have asked BOPRC staff to assist them to identify actions they can take to get quick wins to improve water quality.
1.5	Manage mangroves in line with the resource consent held by Te Upokorehe	30/12/2020	<ul style="list-style-type: none"> <li>Hold 6 working bees to remove mangrove seedlings and complete annual report</li> </ul>		
1.6	Investigate classifications for Ōhiwa Harbour to reflect its special ecological character	On hold			
1.7	Protect and enhance wetlands, saltmarsh and estuarine margins and explore opportunities to construct new areas	Ongoing	<ul style="list-style-type: none"> <li>Support Care Group saltmarsh protection as in 1.9 below</li> </ul>	In progress	- Usual work in progress.
			<ul style="list-style-type: none"> <li>Support development of wetland (Dee/Cottle property)</li> </ul>	In progress	- Winter planting almost complete.

# Ōhiwa Harbour Strategy Annual Work Programme 2017/2018

OHS Action no.	Action Title	Completion date	Deliverable 2017-2018	Progress	Notes
1.8	Monitor and assess the health of Ohiwa Harbour and its catchment	Ongoing	• Complete monitoring as per monitoring timetable		
			• Complete annual monitoring summary	Completed	- Interim report for previous year completed.
1.9	Protect and manage habitat and species	Ongoing	• Implement Yr5 Nukuhou Saltmarsh/Uretara BMP (see 1.7)	In progress	- New generation plan being drawn up for group. - Pest control and other work continues.
			• Implement Yr2 Ruatuna/Pukeruru care group	In progress	- Plan completed for this year. - Pest control continues.
			• Implement Yr2 Hurike care group	In progress	- Plan completed for this year. - 500 natives planted around lagoon.
			• Implement Yr3 Kutarere Sch EEF		
			• Implement pest control by Ohiwa Reserves CG and Bryan's Beach CG	In progress	- Plan being developed for this year. - Pest control continues.
			• Implement pest control Onekawa Te Mawhai Regional Park		
			• Implement control of selected weeds under RPMP		
			• Implement pest control on east end of Ōhope spit		
			• Implement weed control on DOC reserves		
			• Implement shore bird management		

## Ōhiwa Harbour Strategy Annual Work Programme 2017/2018

OHS Action no.	Action Title	Completion date	Deliverable 2017-2018	Progress	Notes
			<ul style="list-style-type: none"> <li>Support Ōhiwa Headland Sanctuary Trust as and where appropriate</li> </ul>		
1.10	Investigate the presence of indigenous freshwater fish species and identify opportunities to manage	Ongoing			
1.11	Investigate the potential impacts of climate change on the Ōhiwa Harbour	30/06/2019			
1.12	Support appropriate regional, district and iwi plan provisions to achieve sustainable management of the Ōhiwa Harbour and catchment	Ongoing	<ul style="list-style-type: none"> <li>Ensure provision of appropriate rules for ODC district plan review</li> </ul>	In progress	- Hearings currently in progress.
1.13	Develop data sets to augment resource management protocols	30/06/2020			
1.14	Support and implement consenting, bylaw and statutory responsibilities	Ongoing			
<b>Action Area 2. Harbour Management</b>					
2.1	Investigate shellfish populations and advocate for their sustainable management	Ongoing	<ul style="list-style-type: none"> <li>Implement shellfish retention, restoration and reef construction trials as per MUSA proposal</li> </ul>	In progress	- Meeting with Tim, Kura, Andy Bluett and Andy Larsen (resource consent consultant) to ensure all is on track.

# Ōhiwa Harbour Strategy Annual Work Programme 2017/2018

OHS Action no.	Action Title	Completion date	Deliverable 2017-2018	Progress	Notes
			<ul style="list-style-type: none"> <li>Regularly monitor kaimoana collection during summer (eastern side, Upokorehe)</li> </ul>		
2.2	Investigate wetfish populations and advocate for their sustainable management	Ongoing	<ul style="list-style-type: none"> <li>Respond to fisheries issues and advocate to MPI as required</li> </ul>		
2.3	Support mahinga mataitai status for Ōhiwa Harbour	Ongoing			
<b>Action Area 3. People and Communities</b>					
3.1	Develop and implement a recreation strategy	30/06/2017	<ul style="list-style-type: none"> <li>Finalise recreation strategy</li> </ul>	In progress	- 2nd draft completed. Meeting shortly to progress.
3.2	Promote awareness of the cultural heritage of Ōhiwa Harbour	Ongoing	<ul style="list-style-type: none"> <li>Incorporate Māori placenames and stories on signage wherever appropriate</li> </ul>		
3.3	Recognise and apply the principles of kaitiakitanga and stewardship in management of the harbour and its catchment	Ongoing	<ul style="list-style-type: none"> <li>Seek opportunities to promote kaitiakitanga and stewardship</li> </ul>		
3.4	Retain Onekawa Te Mawhai Regional Park and manage according to the park management plan	Ongoing	<ul style="list-style-type: none"> <li>Implement the Onekawa Te Mawhai annual plan</li> </ul>	In progress	- Tenant has moved out of house.
			<ul style="list-style-type: none"> <li>Complete incorporation of new 9.4ha into the park</li> </ul>	In progress	<ul style="list-style-type: none"> <li>Winter planting completed.</li> <li>Orchard and eucalypts removed.</li> <li>Further fencing underway.</li> </ul>

## Ōhiwa Harbour Strategy Annual Work Programme 2017/2018

OHS Action no.	Action Title	Completion date	Deliverable 2017-2018	Progress	Notes
3.5	Ensure information distribution (including signage around the harbour) is current, appropriate and coordinated	Ongoing	• Continue upgrading of instructional signage	In progress	- DOC are upgrading their signage.
			• Complete and install 2nd theme of heritage trail interp	In progress	- Further drafts produced. - Te Reo translations in progress.
3.6	Continue to implement comms/education plan	Ongoing	• Complete 4 newsletters		
			• Complete 4 minutes summaries	In progress	- 1 summary completed.
			• Create stand-alone Ōhiwa web pages	In progress	- Researching suitable templates.
			• Hold 2 X workshop/field trip for OHSCG/ OHIF		
			• Hold 1 community social event		
3.7	Develop a coordinated approach to, and implement management of, public reserves	Ongoing	• Carry out maintenance of reserves		
			• Carry out upgrading of Ōhope Wharf reserve		
			• Provide support to Rotary Ōhope harbourside trail project	In progress	- Discussions with Rotary about signage, pest control and planting.
3.8	Support the implementation of regulations for controlling vehicles on tidal flats and beaches	Ongoing	• WDC and ODC implement bylaws		
3.9	Support appropriate harbour and catchment research opportunities	Ongoing			

## Ōhiwa Harbour Strategy Annual Work Programme 2017/2018

OHS Action no.	Action Title	Completion date	Deliverable 2017-2018	Progress	Notes
3.10	Develop protocols between the Ōhiwa partners and other statutory agencies	Ongoing			
3.11	Support the work of landowners and community groups	Ongoing	• Provide support as required to groups as in 1.9	In progress	- See 1.9
			• Provide support to landowners as and when required	In progress	- See 1.1, 1.2, 1.4, 1.7.
			• Provide support for BirdsAPlenty festival and other events as required		
			• Provide plants for community planting initiatives as required		
3.12	Support the involvement of local people in education initiatives and in the management of the Ōhiwa Harbour and its catchment	Ongoing			
3.13	Advocate for health and safety within the harbour and catchment	Ongoing	• Ensure the Safe Roads project provides appropriate safety improvements which do not impact negatively on other harbour values	In progress	- In discussion with NZTA who will be sending proposals shortly.
<b>Other / admin</b>					
	Admin (meetings, preparation etc.)		• Hold 4 OHSCG hui	In progress	- 1 OHSCG hui held August.
			• Hold 2 OHIF hui		
			• Hold 2 X workshop/field trip for OHSCG/ OHIF		





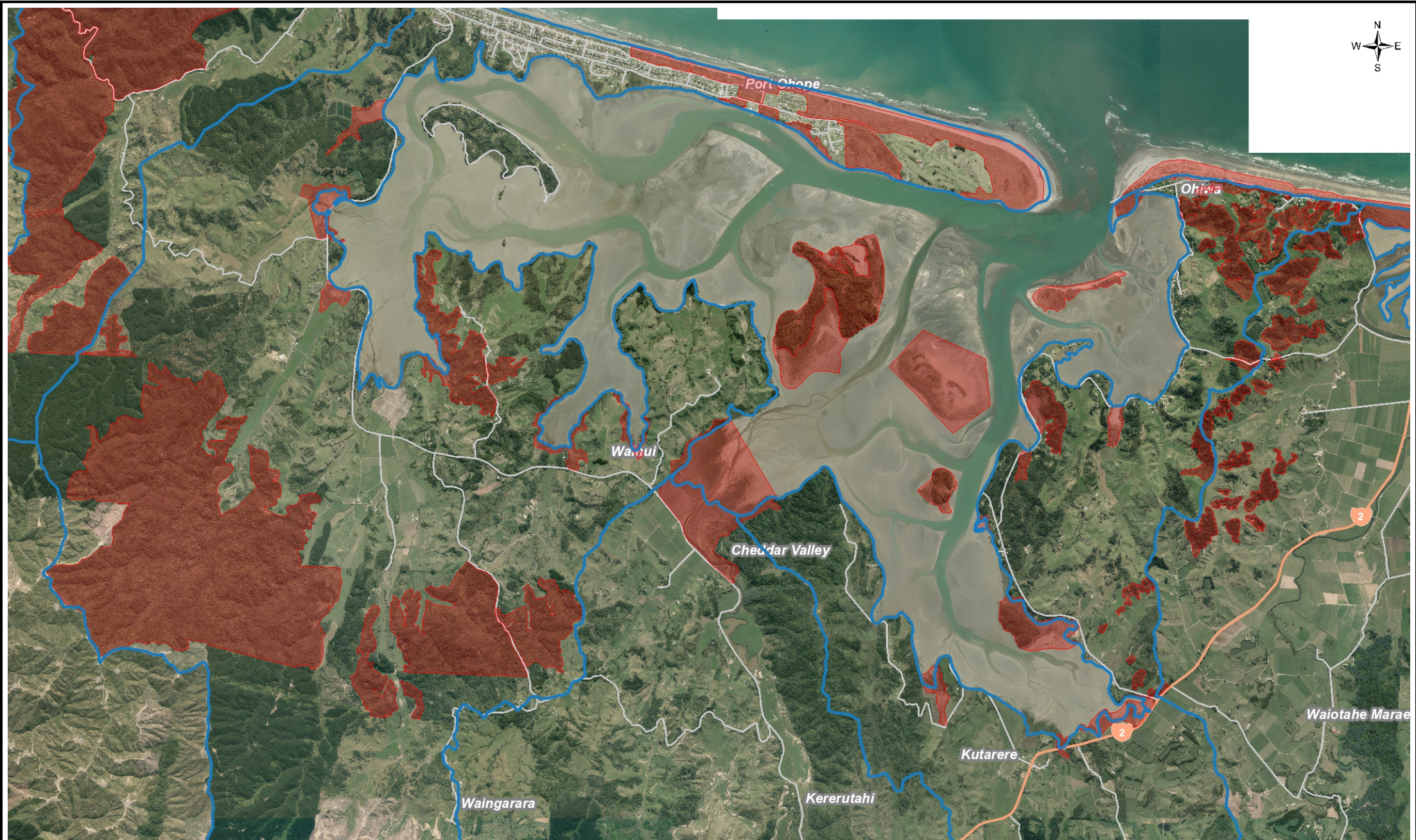


## **APPENDIX 2**

### **Map showing High Value Ecological Sites in Ohiwa Catchment**











# **PRESENTATION - Ohiwa Harbour Catchment Annual Work Programme 2017-2018 update**





**Receives Only – No Decisions**



**Report To:** Ōhiwa Harbour Implementation Forum

**Meeting Date:** 12 September 2017

**Report From:** Simon Stokes, Eastern Catchments Manager

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## **State of Ōhiwa Harbour and Catchment Interim Report 2017**

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### **Executive Summary**

This report provides an update of the results of the monitoring programme for Ōhiwa Harbour and catchment for the past 2016/17 financial year under action 1.8: to monitor and assess the health of Ōhiwa Harbour and its catchment. It is designed as a brief annual summary in between the full five yearly more comprehensive 'State of the Ōhiwa Harbour and Catchment' report that will be delivered at the end of 2018.

Recent monitoring results show that the harbour and catchment continue to improve slowly and is in general good health. After 15 years of focus as a programme, the results are heading in the right direction, but it is clear that it does take time to rectify legacy affects. For example, the remobilisation of sediment from the Nukuhou River's major willow removal programme affected the river, however recovery is now occurring. Considering that a large proportion of the catchment is in pastoral and plantation forestry land use, the management change being applied by farmers, lifestylers and forest owners is leading the way.

### **Recommendations**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

- 1 Receives the report, State of Ōhiwa Harbour and Catchment Interim Report 2017.**

### **1 Background**

Forty seven indicators of the harbour and catchment such as bird populations, water quality, vegetation and pest control are monitored by various agencies. Some of this monitoring is annual and some less frequent. This information is collated each year and forms the basis of this report (for the full report, see Appendix 1).

The major risks to the long term wellbeing of the harbour fall broadly into two categories: threats to water quality and to biodiversity.

As the receiving environment for the catchment, the harbour can inherit catchment-derived contaminants such as sediment and nutrients over time. Adverse ecological effects such as infilling, loss of marine life and an environment that may be unhealthy

for recreation can occur if these loads exceed the natural flushing capacity of the estuary. Draining 60% of the catchment, improvements in the Nukuhou River water quality, which was historically considered poor, is key to the health of the main arms of the harbour. Although estuaries naturally fill in over time this process has been sped up through historical changes to land use and land management.

The biodiversity status of both the harbour itself and its surrounds have also been impacted by historical land use changes, with the removal of native forest, the draining of wetlands and the introduction of pests.

The purpose of the monitoring is to enable us to track changes over time, firstly to show whether management of land, water and biodiversity are achieving the desired results and secondly to alert us to any new negative changes that require urgent attention.

## 2 Key Findings

The following outlines the key findings from monitoring from the past year in relation to the major risks to the harbour and shows whether initiatives taken to reduce the impacts are having an effect.

### Biodiversity

- For the first time, the Department of Conservation undertook a survey of the nationally critical bittern within Ōhiwa Harbour. This revealed the presence of 7 male bittern, however, because the method only records males it is believed the population within Ōhiwa is likely to be higher. This reinforces the importance of the estuarine habitat and its protection and management within the harbour for these rare birds and it's recommended that a plan is developed to more effectively care for this population.
- Macrofauna (organisms living on the harbour floor) numbers and diversity remain stable in the harbour indicating that the ecology of the harbour floor is being maintained in fair to good health.
- A 5 yearly survey of rare and endangered plants was carried out last year. Although a few of the plants previously reported could not be found, most populations are stable, with many increasing. Some of this increase is likely to be the result of increased pest control and it's recommended that further management work be undertaken to increase some of the populations where possible.

### Fresh Water

- The water quality of the Nukuhou River continues to improve with suspended sediment and turbidity showing significant improving trends. Levels of nitrogen and phosphorus have showed a steady improvement over the past 14 years potentially reflecting reduced inputs of effluent and fertilisers. Over the past year, temperatures and dissolved oxygen levels have not been recorded over thresholds where organisms may suffer stress or death. *Escherichia coli* levels, although unsafe for swimming in the river, also show a significant improving trend which is also reflected at other sites monitored in the catchment. This trend is likely to be an indication of improved agricultural practices in the Nukuhou catchment and reduced effluent in the

Nukuhou River. It's recommended that the efforts of landowners to improve their land management practices continue, to ensure continued improvement.

## Harbour

- Harbour water quality results for safe swimming guidelines over the past summer have all been within safe limits except for one sample, out of 21, exceeding the 'orange' alert threshold. This exceedance is possibly due to long low flow periods which allowed for contaminants to build up before being flushed out with the next medium to large flow event.
- Shellfish monitoring results, for the purpose of safe shellfish consumption, have exceeded one out of two thresholds set by the Ministry of Health however the breaches were only slightly elevated above the threshold and was not considered enough to affect the safety of the shellfish for eating.
- Most harbour water quality results collected from Ōhiwa and Ruatuna road boat ramps were below the alert trigger values for the past year. Phosphorus and nitrogen values were slightly elevated above trigger values. Phosphorus levels may be a consequence of phosphorus available attached to the volcanic soils in the catchment and washed in or reactivated in the sediment load.
- Heavy metal levels in the harbour sediment remain low indicating that the sediments are relatively uncontaminated and in good condition.
- Mud levels in the middle of the estuary are considered fair however in the newly established monitoring sites in the upper sheltered reaches of Ōhiwa Harbour the mud levels are considered higher than they should be. It is likely that mud levels are the main stressor affecting the quality of the benthic macrofaunal communities in the harbour.

## 3 Implications for Māori

Ōhiwa Harbour is recognised as a very significant place for Māori for their relationship to the harbour and as a traditional māhinga mātaītai (food gathering place). The results in this report suggest that water quality continues to improve and that shellfish in the harbour are consistently safe to eat. As Ōhiwa Harbour Strategy partners, the four local iwi are always encouraged to participate in the monitoring work.

There is a growing awareness of the concept of matauranga māori as a means of measuring or monitoring change in the environment and to enrich our understanding of the environment. Bay of Plenty Regional Council is currently investigating ways to apply this in our regional monitoring programme and hope to trial an approach next year. Options for monitoring Ōhiwa Harbour which reflect matauranga māori practice from our iwi partners would be most welcome for discussion, to use as indicators.

## 4 Summary

Overall, continued monitoring shows the catchment and harbour environment to be in a good condition considering that a large proportion of the catchment is in pastoral and plantation forestry land use. Most measures of water quality and biodiversity are at least stable with many steadily improving. The Forum through its strategy need to ensure the programme management remains focused on the work taking place to ensure these healthy trends continue.

The annual monitoring programme will continue during the current year with the five yearly dune land monitoring and coastal pohutukawa monitoring also taking place. A

new rain gauge to be sited in the Nukuhou catchment will also provide valuable new data.

Lisa Bevan  
**Environmental Data Officer**

**for Eastern Catchments Manager**

**4 September 2017**

# **APPENDIX 1**

## **2017 State of Ohiwa Harbour and Catchment Interim Report**





# State of Ohiwa Harbour and Catchment

## Interim Report 2017

Bay of Plenty Regional Council  
5 Quay Street  
P O Box 364  
Whakatāne  
NEW ZEALAND





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# Part 1:

## Introduction

A monitoring programme is in place to track the ecological and physical health of the Ōhiwa Harbour and its catchment over time. There are 47 measures, mostly involving various aspects of biodiversity and water quality, which are monitored, some annually and some less frequently. The monitoring is undertaken by a range of agencies, organisations and individuals. A report summarising the results of the monitoring that has taken place is produced each year. This report summarises the monitoring results from the 2016/2017 financial year.

Every five years, these interim reports are compiled into a State of the Ōhiwa Harbour and its Catchment Report which contains a complete set of monitoring results from the five year period and provides a more detailed analysis of trends over time. The next such report is due for completion in 2018.

# Part 2:

## Land

### Harbour margin retirement

The Ōhiwa Harbour margins are all fenced or otherwise protected from stock access and have been for some years now. While planting of the harbour margins is not able to be carefully monitored, it is worth noting that significant areas of the harbour margin are being steadily planted up by individual landowners and care groups over time. Such planting helps to improve the habitat and aesthetics of the harbour generally.

### Riparian fencing and land retirement

#### Key findings

In the last year an additional 2,655 m of stream has been fenced in the Ōhiwa Catchment. 136.1 km out of 146.5 km (92.9%) of the Nukuhou River and main tributaries are now protected from stock access.

This riparian fencing is important as it:

- (a) prevents stock access to streams and any direct deposition of faecal matter into the water,
- (b) prevents stock trampling causing erosion of the stream banks.

1,000 shrub willow poles and some 1,200 native plants were planted along the Nukuhou River and major tributary banks to help stabilise them and protect them from erosion.

This planting is important as the Nukuhou River is deeply incised into the floodplain and the banks consist of soft, unconsolidated silts which are very prone to erosion and collapse.

250 poplar poles were planted on steeper slopes on pastoral land to help prevent erosion.

Another 4.3 ha of steep erosion prone land has been retired from grazing and planted in pines. This is part of an ongoing programme to encourage landowners to retire steep slopes from grazing and plant them in either natives or plantation forest to reduce erosion.

Most of the above work is carried out voluntarily by individual landowners with advice and financial grants from Bay of Plenty Regional Council (BOPRC).

#### Management recommendations

It is important that this fencing and planting work continues. As the main river stems and tributaries are protected, the work should progress along the smaller tributaries and farm drains. Further efforts should be made to identify further steep, erosion prone land and ensure the land use of it is appropriate.

# Part 3:

## Terrestrial biodiversity

Regular monitoring of a number of bird species is carried out variously by the Department of Conservation (DOC), BOPRC care groups and others. Pest control activities and the removal of pest plants are also monitored by the same groups. This year a repeat survey of populations of selected rare and endangered plants was also carried out by indigenous landscape consultants under contract to BOPRC. A summary of all this monitoring is presented below.

### Australasian Bittern survey

The Australasian bittern or Matuku is classified as nationally critical (the same status as the Kakapo). Little was previously known about their population status around the Ōhiwa Harbour, except that they have been occasionally seen and heard. The bittern is a secretive bird that inhabits principally both freshwater wetlands and saltmarshes but also adjacent wet farm paddocks and drains, feeding on small fish and frogs. Its numbers have declined over time mostly as a result of habitat loss and probably predation. A number of birds have also been killed on the roads. DOC staff undertook a survey in likely areas of bittern habitat to better understand the abundance and distribution of these birds using sound recording to capture the male's booming calls during the spring 2016 mating season.

### Key findings



Map 1: Australasian bittern survey sites

Table 1      *Bittern survey results.*

Recorder Location	Estimated number of male bitterns
Pukeruru Point Inlet	1
Ohiwa Scenic Reserve Inlet	0
Reeves Road Inlet	0
Ohiwa Domain	0
Maple's	0
Nukuhou Saltmarsh A Line	2
Nukuhou Saltmarsh C Line	2
Awaratapuna Stream	1
Tunanui Stream Inlet	1
Kutarere Recreation Reserve	0
<b>Total</b>	<b>7</b>

Results from the bittern survey revealed the presence of seven male birds. But because the method only records male birds (females don't call), it is likely that the population in Ōhiwa Harbour is greater than that recorded. There may also have been birds present in locations not monitored. Previous marshbird surveys in Ōhiwa Harbour have also detected bitterns mostly from recording flushed birds, footprints or suspected roosting sites.

### Management recommendations

This survey used an improved method for detecting bittern and showed that the harbour is an important site for these rare birds. Monitoring should be repeated at least every five years. It would also be valuable to develop a plan to ensure better protection of these birds around the harbour.

## Kiwi survey

Last autumn, a large number of volunteers, assisted by DOC staff, carried out a kiwi survey in the area around the Loop Road boat ramp on the eastern side of the harbour. Locals have been reporting kiwi calls there for many years. Some pest control is carried out by a care group in much of this area.

### Key findings

The survey confirmed the presence of one male kiwi. It's possible that a female kiwi was also recorded but this is yet to be confirmed. Kiwi are difficult to distinguish amongst the numerous calls of weka which begin calling in response to every kiwi call.

### Management recommendations

It is recommended that pest control be extended in this area and that annual surveys be undertaken, care group capacity allowing.

## Black swans

In the Ōhiwa Harbour, black swans graze on sea grass (*Zostera melleri*), rimurehia. Sea grass is a native estuarine plant that grows in extensive beds and plays an important role in the estuary by stabilising the bed, preventing erosion and providing food and shelter for marine life. There is concern that swan grazing may be causing permanent damage to the seagrass beds. The swans appear do not appear to be permanently resident in the harbour but little is known about their habits or movements. Black swans are a game bird and are protected as such by Fish and Game NZ. Fish and Game have recently responded to questions about the damage the swans are apparently causing by suggested further research to investigate the movement and habits of these birds. The area of seagrass where the swans are generally seen makes is very difficult to access and controlling the swans would be difficult.

### Key findings

Recently 60 black swans were counted in Ōhiwa Harbour. Last year there were about 40 and about 20 were counted in 2014.

### Management recommendations

Further approaches should be made to Fish and Game to ensure that further research is carried out and that funding is sought for this.

## National wader count

Ōhiwa Harbour is a very important breeding and feeding site for a small number of resident shore and wading birds and even more important for large flocks of migratory wading birds during the summer. Wading bird counts have been undertaken in Ōhiwa Harbour by the Ornithological Society of New Zealand (OSNZ) since 1986. Bird counts are held every June and November providing a snapshot of the numbers of birds at those particular times.

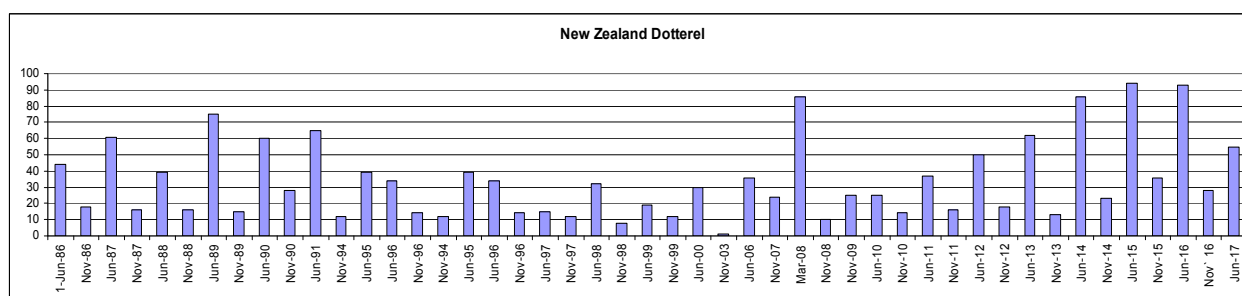
Informal monitoring of other shore birds (e.g. terns and gulls) is carried out by various volunteers and care group members.

### Key findings

#### New Zealand Dotterel

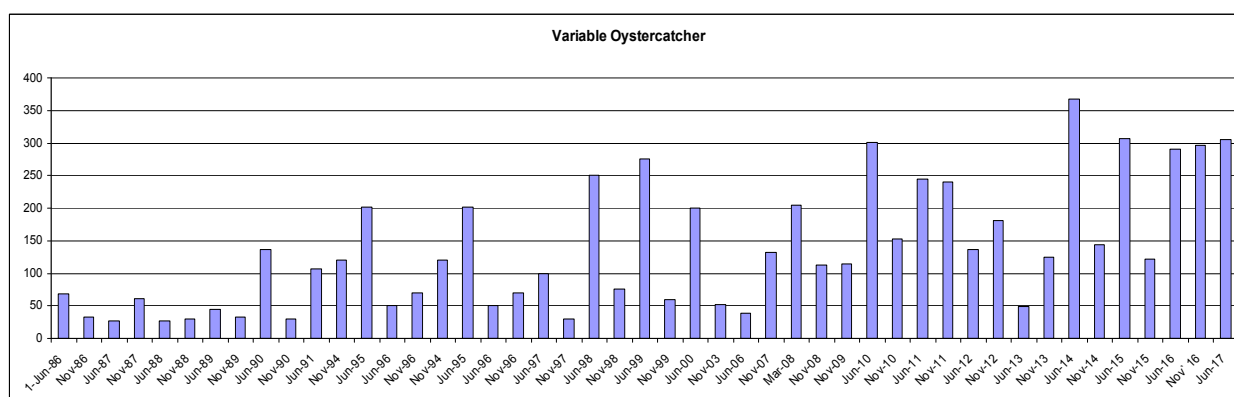
Numbers have increased steadily since June 2013. DOC and several volunteer care groups manage these birds (using predator control and also fencing nesting sites off to protect against people, dogs and cars) on Ohope Spit, Whangakopikopiko, Sand Island, Ohiwa Spit and Ohiwa Beach.

Because of coastal erosion and extremely high tides there are now limited places where dotterels can breed, but there is evidence that some birds are moving towards Opotiki and further up the East Coast.



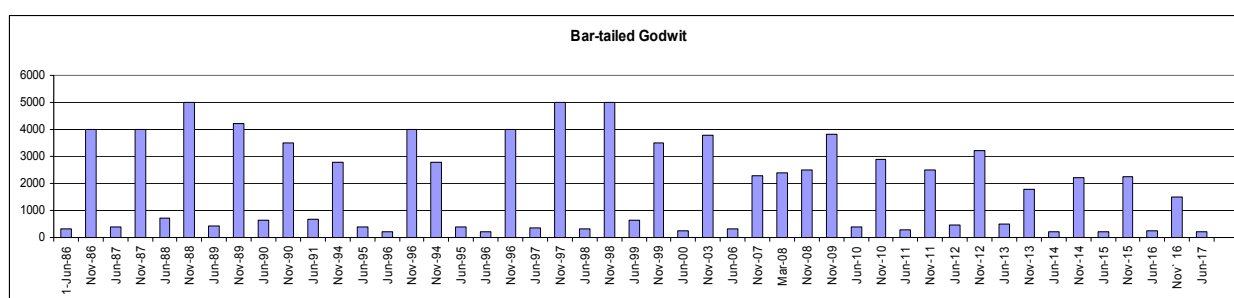
## Variable Oystercatchers

Numbers have risen to a maximum of 367 in 2014. These birds have also benefitted from the shorebird programme. Before management the average was 200.



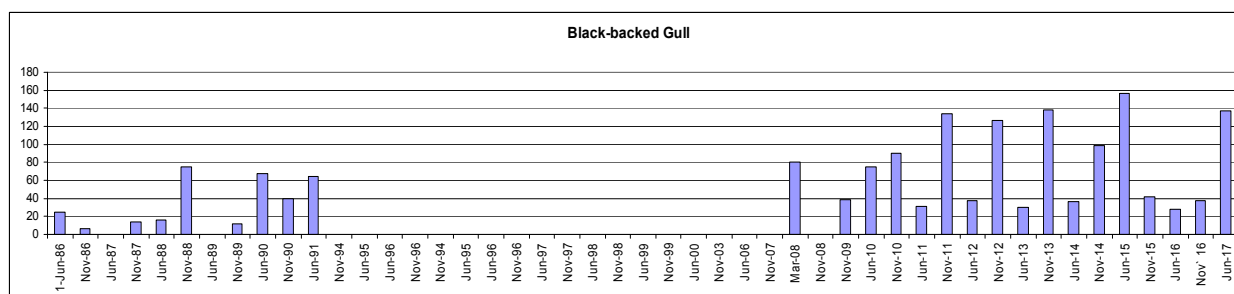
## Bar-Tailed Godwit

Bar-tailed Godwits numbers have been decreasing up to 10% per year. This trend is universal as land reclamation and degradation continues at feeding stops at estuaries in east Asia.



## Black Backed Gull

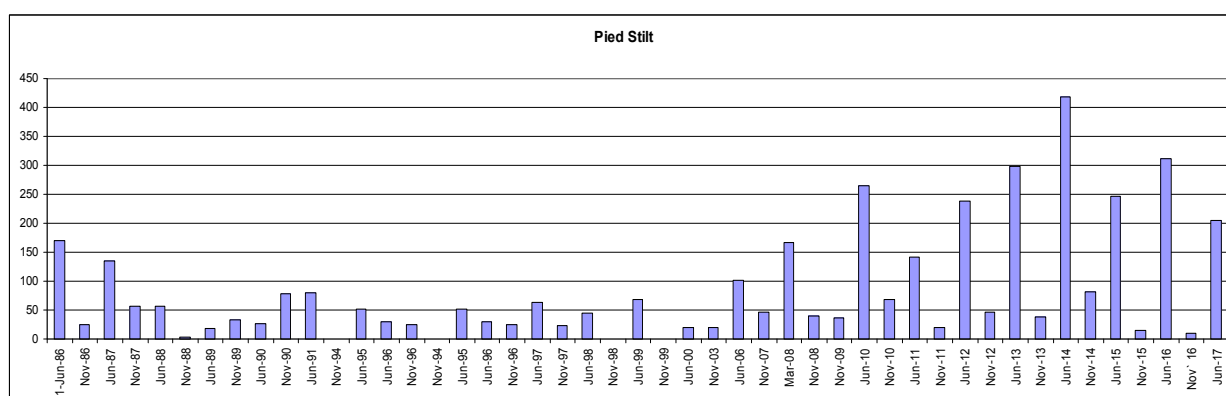
Numbers are rising again even though a programme of egg pricking of 100-150 per year is taking place at nesting areas around Ohiwa Harbour. Black backed gulls predate on the eggs and chicks of other nesting birds. It is believed that the extra gulls are coming from Mount Tarawera as there is a large nesting area there.





## Pied Stilt

Numbers are high, the largest in 2014. There is no management of these birds. They winter over at Ōhiwa and nest on surrounding flats and farmland.



## Other shore birds

Other birds that breed in the Ōhiwa Harbour, often on the shellbank, include white fronted terns and Caspian terns. This year volunteers noted that a record 17 Caspian tern chicks were raised here. The breeding of some other birds was severely impacted by unusually high tides.

## Fernbird

While fernbird populations are monitored every five years as part of the marsh bird survey, the Nukuhou Saltmarsh Care Group regularly monitors the population of fernbird in the saltmarsh and on Uretara Island. Since 2003, as a result of predator control, fernbird numbers have risen from about five to up to 80 in the saltmarsh. On Uretara Island the group began predator control in 2014 when 12 fernbird were recorded. This number rose to 25 in 2015 and 47 in 2016.

## Management recommendations

Predator control appears to be having a positive impact on some of the monitored bird populations. It is recommended that landowners, care groups and volunteers continue to be encouraged to expand their predator control around the harbour margins.

## Threatened plants survey

A survey of threatened, at risk and other significant native plants in the Ōhiwa Catchment was first carried out in 2011. A re-survey of a selection of these plants was undertaken in 2016/2017. Abundance, management and enhancement recommendations were recorded for each population.

### Key findings

Species	Common Name	Location	Status	Present in 2011 (Y/N)	Present in 2017 (Y/N)	Comments
Adelopetalum tuberculatum		Waiotane	□	Y	Y	
		Uretara Island	□	Y	Y	
Astelia grandis	Swamp astelia	Hiwarau wetland	□	Y	Y	No apparent recruitment.
Austroderia toetoe	Toetoe	Hiwarau wetland	↘	Y	Y	Only two struggling seedlings found.
		Onekawa	□	N	Y	Recent discovery. Seeds collected.
Austrostipa stipoides		Otao Domain	A	Y	N	Erosion.
	Coastal immortality grass	Uretara Island	↗	Y	Y	Doing well.
		Whangakopiko piko	↗	Y	Y	Doing well.
Bolboschoenus caldwellii	Purua grass	Hiwarau wetland	A	Y	N	Possible competition.
Dianella sp.	Inkberry	Uretara Island	□	Y	Y	
Drosera binata	Forked sudew	Hiwarau wetland	NF	Y	N	
Epilobium pallidiflorum	Tarawera	Hiwarau wetland	NF	Y	N	
Ficinia spiralis	Pingao, Golden sand sedge	Whangakopiko piko	A	Y	N	Erosion.
Hebe parviflora	Hebe	Tunanui inlet	□	Y	Y	
Hydrocotyle pterocarpa		Hiwarau wetland	NF	Y	N	
Kunzea toelkenii		Whangakopiko piko	↗	Y	Y	
Lophomyrtus bullata	Ramarama, bubble leaf	Stanley Road		Y		Not surveyed.

Species	Common Name	Location	Status	Present in 2011 (Y/N)	Present in 2017 (Y/N)	Comments
		Matekerepu Stream	□	N	Y	
Nertera scapanioides		Hiwarau wetland	NF	Y	N	
Pimelea tomentosa		Claydon Place	↗	Y	Y	Doing well.
		Uretara Island	↗	N	Y	Seedling found.
Poa billardierei	Hinarepe, Sand tussock	Whangakopiko piko	A	Y	N	Erosion.
Ptisana salicina	Tawhiti para, King fern	Ford Covenant	↗	Y	Y	Doing well.
Tetraria capillaris	Tetraria	Hiwarau wetland	□	Y	Y	

Status: (A) population absent, ↗ recruiting, □ stable, ↘ declining, (NF) not found.

## Management recommendations

It is heartening to see the populations of many of these plants stable or increasing. Management recommendations are provided in the complete report. These include carrying out weed control to reduce competition in some situations and propagation of plants from seed and the establishment of larger or new populations in others. These should be followed wherever possible during the next five years and the survey repeated at the end.

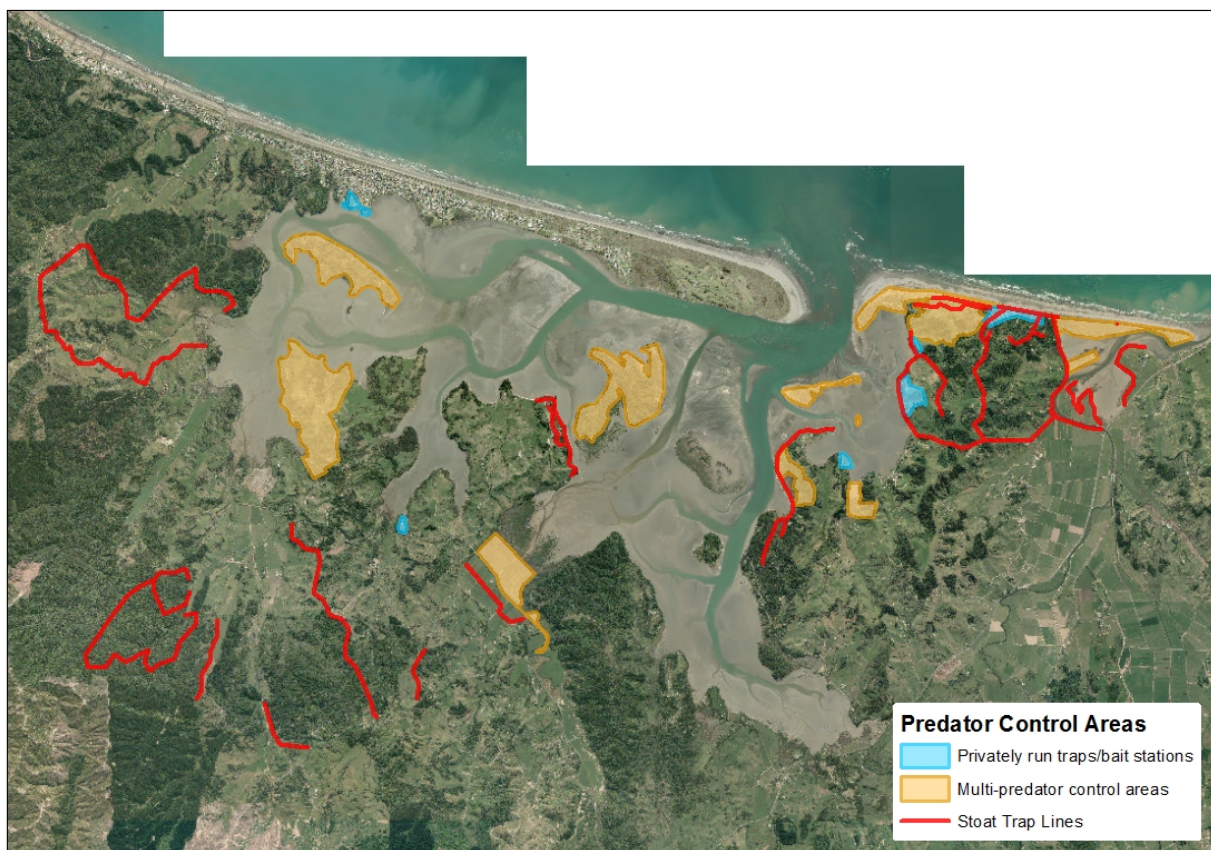
## Pest control

Ōhope Scenic Reserve has had extensive rat control since 2009. Results from the latest small birds monitoring report reflects that intensive predator control is having a positive effective on the abundance and diversity of small birds and will be continued.

Annual rat control was carried out in Onekawa Te Mawhai Regional Park by BOPRC.

Pest control of either rats, stoats or possums, and in some cases all three, is undertaken over an increasing area by a steadily increasing number of care groups and individuals. In many cases hedgehogs are also caught and in some places cats are actively trapped. In one area on the banks of the Nukuhou River, mice are targeted for the benefit of spawning whitebait.

The map below gives an indication of the area around the harbour now covered by some form of pest control.



*Map 2: Pest control in Ōhiwa Harbour.*

## Care groups

In the last year, two new care groups have been established: the Hurike Care Group and the Ōhiwa Headland Sanctuary Trust.

The Ōhiwa Headland Sanctuary Trust has benefited from funding from Kiwibank and the local community. They currently have 140 DOC200 traps throughout the headland (430 ha) and a further 200 rat traps in residents' back yards at Bryans beach and Ōhiwa.

The Hurike Care Group on Reeves Road controls predators around the lagoon with 20 DOC200 traps and some bait stations on adjacent properties. They are also planting the perimeter of the lagoon.

The Ruatuna/Pukeruru Care Group now maintains a line of DOC200 traps along 2.5 km of harbour margin along Loop Road with rat bait stations in some adjacent areas. This will shortly be extended along Ruatuna Road.

Ōhiwa Reserves Care Group continue to lay bait for rats on Whangakopikopiko Island, on Ōhiwa Spit and in Ōhiwa Domain.

The Bryan's Beach Community Group have 40 DOC200's along the stretch of beach from Waiōtahe Spit to Ōhiwa Spit.

The Nukuhou Saltmarsh Care Group continues to bait/trap predators at Nukuhou Saltmarsh and on Uretara Island. Rats and stoats are maintained to a level of zero density on Uretara Island.

Care groups on the Paparoa peninsula and Ohakana control rats as pest numbers reach levels of concern.

A plan has been prepared for extensive rodent and predator control on 140 ha of reserve land on Ōhope spit. Pest control will begin in 2017/2018 year.

Several care groups on the eastern side of the harbour are currently in the process of extending their operations to join up with each other.

A number of private landowners around the harbour also carry out pest control over some large areas.

### Management recommendations

It will be important to ensure that these groups have security of funding long-term so they can continue their work.

## Pest plants

The regional pest plants African feather grass, old man's beard, and Japanese walnut have all reduced in numbers where they are monitored in the Ōhiwa Catchment. Last year's monitoring detected no African feather grass and no old man's beard. African Japanese walnut control has been completed in the upper Nukuhou Catchment. No control has been undertaken of wild ginger or woolly nightshade.

DOC have completed pest plant control in most of their reserves around the harbour.

### Management recommendations

As arguably the most ecologically damaging pest plant in the area, it is suggested that more attention is paid to the control of this plant.

# Part 4:

## Fresh water

### Nukuhou water quality

The Nukuhou River Catchment comprises 60% of the total land area draining into Ōhiwa Harbour. The main state of the environment water quality monitoring site on the Nukuhou River is at Glenholme Road where data has been collected since 1990. An additional six sites have also routinely sampled for water quality since 2005.

The following is a summary of water quality of the Nukuhou River (see appendix for the full report).

#### Glenholm Road monitoring site

The following indicators are routinely sampled from the Nukuhou River at Glenholm Road:

	Measure	Impact
Water clarity	Horizontal visibility.	Can limit light penetration into the water impacting photosynthesis of plants and algae. Sediment can clog spaces used as habitat and shelter by invertebrates and fish as well as making the water unsuitable for drinking and swimming.
Suspended solids	Measure of solids in the waterway.	
Turbidity	Cloudiness of water.	
E.coli	Faecal contamination.	Indicates the level of harmful pathogens in the waterway and the health risk associated with contact and drinking water.
Ammonium	Forms of nitrogen.	High nitrogen content in rivers can lead to low oxygen levels, alter plant life and can become toxic at high concentrations.
Nitrite and nitrate as nitrogen		
Total nitrogen	Measure of all types of nitrogen.	
Total phosphorus	Measure of all types of phosphorus.	Can cause rapid weed growth and algae blooms which can choke streams and deplete oxygen.
Dissolved reactive phosphorus (DRP)	Measure of readily available phosphorus to plants and algae.	

#### Key findings

Overall, the long-term water quality trend of Nukuhou River continues to improve. Suspended sediment and turbidity both showed significant improving trends, which was reflected in an increasing trend in water clarity. The dissolved ammonium (NH<sub>4</sub>-N) and dissolved reactive phosphorus (DRP) have also shown a decline in average concentration (improvement) in the past 14 years and have continued to decline this year, potentially reflecting reduced inputs of effluent and fertilisers. There was also a decreasing trend in the concentration of nitrate-nitrite nitrogen.

*E. coli* is an indicator measure for a number of harmful pathogenic bacteria which can be found in water. Current *E. coli* levels at Glenholme Road are acceptable for contact but not for activities involving full immersion such as swimming. However the levels of *E.coli* are trending downwards as they have been for some years.

		Water Clarity	Suspended Solids	Turbidity	E.coli	Ammonium	Nitrite and Nitrate as Nitrogen	Total Nitrogen	Total Phosphorus	Dissolved reactive phosphorus (DRP)
<b>Nukuhou River</b>	Trend	↗	↘	↘	↘	↘	↘	□	□	↘

Trend: ↗↘ significant and meaningful trend ( $p < 0.05$ ); □ not significant.

### Other monitoring sites in the Nukuhou River

Monitoring is carried out at these extra sites in order to develop a clearer picture of water quality in the upper catchment and tributaries.

The following are the key results for the past 2016/2017 year for all five sites monitored on the Nukuhou River.

High temperatures can cause organisms to suffer physiological stress and death. All samples have had temperatures below the threshold of 25 degrees.

Dissolved oxygen is essential for aquatic life and can cause adverse effects if it falls below 5 mg/l. All samples have had dissolved oxygen values above this threshold.

Almost all of the monitoring sites showed a significant declining trend in *E.coli* concentrations. If this trend continues or stabilises at a low level this may also be an indication of improved agricultural system in this catchment.

In summary, the overall water quality in the Nukuhou River and its tributaries continues to steadily improve.

### Management recommendations

While it is clear that most of the indicators of water quality in the catchment are improving, it is recommended that work to make further improvements continues. Potential nutrient and pathogen pathways should be identified on each individual farm and plans drawn up to address them.



# Part 5:

## Harbour water quality

Water quality of the harbour is regularly monitored for overall ecological health and also over the summer period to advise on the health risk associated with recreational activities in the harbour.

### Harbour water quality

Water quality of the harbour is measured at two distinct sites: Port Ōhohe Wharf and Ruatuna Road boat ramp.

Total suspended solids have returned to baseline figures since 2010 however Port Ōhohe remains slightly elevated.

Most water quality measures are consistently below the Australian and New Zealand Environment and Conservation Council trigger values suggesting good overall health.

Chlorophyll-a concentration is a measure of productivity and is driven by excess nitrogen and phosphorus in the water column, in combination with physical factors such as temperature and sunlight hours. Excess algal production can have adverse ecosystem effects such as: shading of seagrass, reduced aesthetic values, emission of odour, and oxygen depletion during the decomposition process. In addition, cyanobacteria thrive under similar conditions and can produce toxins that are harmful to humans. In Ōhiwa Harbour, the median chlorophyll-a value is around 2 µg/L, which is similar to other estuaries in the Bay of Plenty, and is only half of the ANZECC trigger value of 4 µg/L for slightly disturbed estuaries in the south-east Australia.

### Guidelines for safe swimming

Safe swimming guidelines are based on the amount of *Enterococci* bacteria that is present in 100 ml of water. *Enterococci* is not harmful itself, but it is an indicator of the possible presence of pathogenic (disease-causing) bacteria, viruses, and protozoans that live in human and digestive systems. The MFE system has three categories, and two thresholds. A site can be defined as being in an acceptable 'green' state if the number of *Enterococci* per 100 mL is lower than 140; an 'orange' alert mode if numbers of *Enterococci* are between 140 and 280 per 100 mL; or a 'red' action mode if *Enterococci* numbers of two consecutive samples exceed 280 per 100 mL.

### Key findings

Water quality results based on enterococci bacteria for the past summer period have all been within safe swimming limits except for one sample exceeding the 'orange' threshold. The 'orange' threshold has only been exceeded four times since 2004 in Ōhiwa Harbour. The latest exceedance occurred during a very high 12 m<sup>3</sup>/s flow event, as measured at the Nukuhou at Glenholme site. There were also other events of comparable size that occurred during the same bathing season, yet did not result in elevated Enterococci levels. One possibility for the different response may have to do with a long period of low flows, which allowed contaminants to build up and be flushed out with the next medium to large sized event.



## Guidelines for safe shellfish consumption

To determine if shellfish are safe to eat water samples from the Ōhope Reserve are analysed for the indicator faecal coliforms. Similar to *enterococci*, faecal coliforms indicate the presence of pathogenic bacteria, protozoa and viruses. However, faecal coliforms have a stronger correlation with health risks associated with eating shellfish than *Enterococci*, making them a useful indicator for shellfish consumption. The guidelines for safe shellfish consumption, set by MfE and MoH are as follows:

*“The median FC content should not exceed a Most Probable Number (MPN) of 14/100 mL; and no more than 10% of samples should exceed a MPN of 43/100 mL.”*

### Key findings

The faecal coliform median over the 2016/2017 summer period was below the threshold of 14MPN/100 ml. However, the percentage of total samples taken during the 2016/2017 season that exceeded the 43 MPN/100 mL threshold equated to 14.3%, which breached the 10% requirement stated in the Ministry for the Environment (MfE)/Ministry of Health (MoH) guidelines. Given that only one of the MfE/MoH guidelines was breached during the 2016/2017 season, the beach was not considered serious and the harbour is still considered suitable for shellfish collection. BOPRC would consider further investigation into drivers of localised faecal contamination if further high levels are found.

The harbour continues to be safe for swimming and for the collection of shellfish.

# Part 6:

## Estuary and marine life

Estuaries are very susceptible to the impact of a wide range of potential contamination sourced from land runoff and the atmosphere. They act as a trap where contaminants can accumulate to levels that have negative impacts on all marine life. Common contaminants include metals, pesticides and organic compounds. Some contaminants more commonly elevated in New Zealand estuaries include metals such as zinc, copper and polyaromatic hydrocarbons (PAHs) that can remain in the environment long-term.

### Sediment contaminants

An additional four sites have been included in the heavy metal contaminant and nutrient monitoring giving a total of 11 sites. The monitoring schedule has been increased from three yearly to annual.

#### Key findings

Levels of heavy metals in the estuary sediment at all eleven monitoring sites are low indicating that the sediments are relatively un-contaminated and in good condition.

### Estuary macrofauna

Macrofauna include the small invertebrate animals that live within the estuary sediment or on hard substrate (benthic zone) and provide an indication of estuary health. Mud levels, organic carbon content and nutrient levels influence the condition of macrofauna habitat.

#### Current trend

Annual monitoring for macrofauna species richness (number of species present) and diversity (distribution of animal numbers between species) remained stable at all sites monitored in Ōhiwa Harbour. This indicates that the benthic ecology at these four sites is being maintained at current levels of good health. Cockle densities remain relatively stable.

Mud levels in the middle of the estuary are considered fair however in the newly established monitoring sites in the upper sheltered reaches of Ōhiwa Harbour the mud levels are high. It is likely that mud levels are the main stressor affecting the quality of the benthic macrofaunal communities in the harbour.

All benthic habitat monitoring sites show that in terms of organic carbon content, the health of the sediments is good to fair condition. Nutrient levels in the sediments are also fair for nitrogen, but tend to be fair to poor for phosphorus levels.

### Mussels

A survey found that in late 2016, there were two remaining mussel beds in the western side of the harbour. 99.6% of the original 2007 mussel population and 99.6% of the 2009 seastar populations were no longer present. An estimated 485,000 mussels remain in the western side of the harbour. In the eastern side of the harbour, it was found that two of the three identified traditional mussel bed areas were no longer present. The site where mussels were recorded was located in the entrance to the harbour and is subject to significant tidal flow with an estimated 59,000 mussels present.

In 2007 there were an estimated 112 million mussels in the western side of the harbour in 2016 an estimated 544,000 mussels remain in the whole of Ōhiwa Harbour.

A plan for attempting to re-establish mussels in the harbour has already been developed.

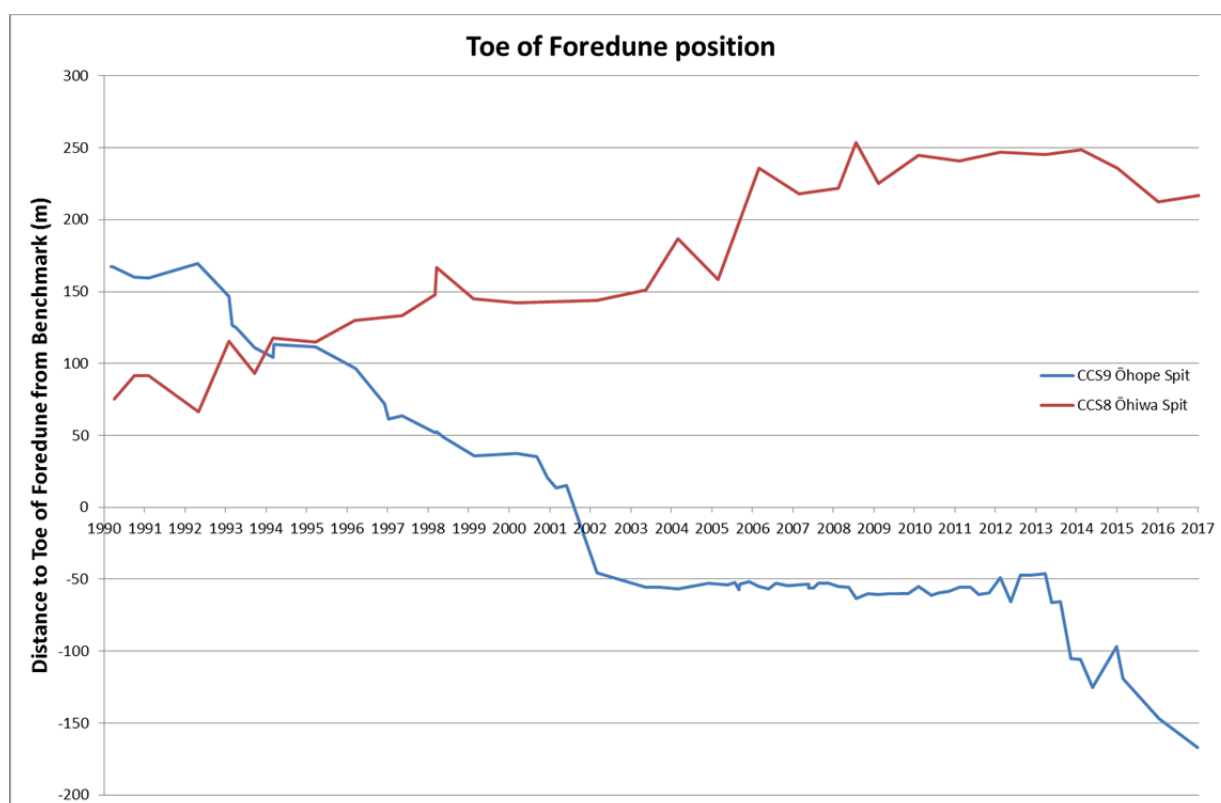
# Part 7:

## Coastal

Erosion and accretion of Ōhope and Ōhiwa spits are monitored annually in summer using cross sections which first measured in 1990.

### Current trend

Results suggest there is a complex link between Ōhope and Ōhiwa spits. The trend shows Ōhope Spit is in a process of retreat which is directly opposite to the trend for Ōhiwa Spit which is in a process of accretion. However, recent observations suggest there has been some increasing erosion occurring on Ōhiwa Spit.



Graph 1: Graph showing the change in position of the toe of foredune for Ōhiwa and Ōhope Spit.

# Part 8:

## What's next in 2017/2018

Outlined below are some of the planned monitoring and management highlights that will be carried out in the 2017/2018 financial year in Ōhiwa Harbour.

### Riparian fencing and retirement

The following is planned for the coming year:

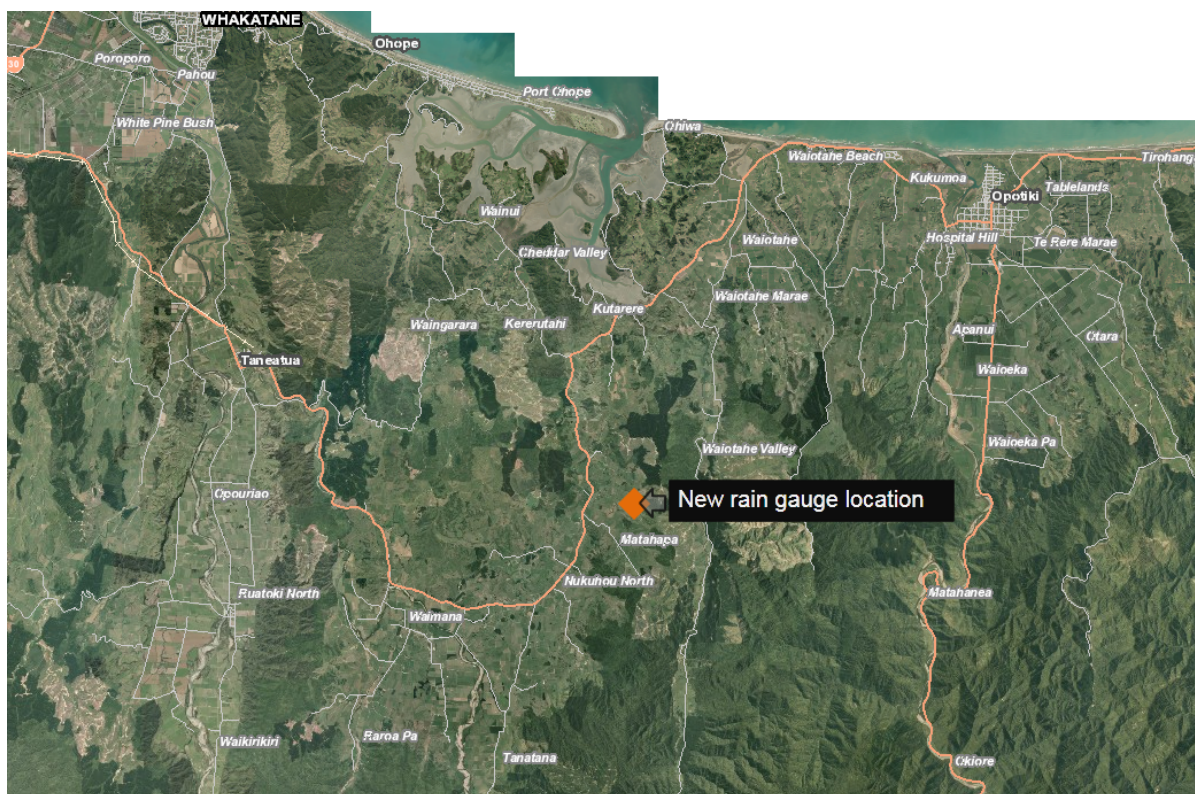
- Fencing 6 km of riparian margin.
- Retire 4 ha of land and plant native trees.
- Poplar planting for erosion protection.
- Protect 4ha of erosion prone land from unsuitable land use.

### Pest control

A plan has been prepared for extensive rodent and predator control on 140 ha of reserve land on Ōhope Spit. There are plans by several care groups to expand their operations.

### Monitoring stations

A telemetered rain gauge is planned to be installed in the Nukuhou Catchment in the coming months by Bay of Plenty Regional Council. Once the gauge is fully running rainfall will be viewable live on the Regional Council's website in the 'Live monitoring and wave buoy' section.



### Purpose

The addition of a telemetered rain gauge is designed to fulfil a gap in Bay of Plenty Regional Council's rain gauge network and flood management scheme. It also will help develop better land management practices in the Nukuhou and Waiōtahe catchments.

## Coastal Pohutukawa forest monitoring

### Purpose

The condition of coastal Pohutukawa forests for the entire Bay of Plenty is monitored by Bay of Plenty Regional Council as part of their Natural Environment Regional Monitoring Network to retain indigenous biodiversity. Coastal Pohutukawa forest is an increasingly threatened ecosystem type that is considered a significant part of the natural character of Bay of Plenty. Monitoring will be carried out in 2018 and will provide information on the condition of Pohutukawa forest in the Bay of Plenty.

## Duneland vegetation mapping

### Purpose

This monitoring, undertaken by Bay of Plenty Regional Council, is used to identify whether or not the natural dune land ecosystem of the Bay of Plenty region is being maintained and whether regional policies and plans remain effective, with a focus on vegetation. Understanding what is occurring in the duneland vegetation is essential in determining whether or not the ecosystem will remain a feature of the coastal zone in the long term. Monitoring of duneland within the Ōhiwa catchment is being done in 2017 and results will be available in 2018.

# Appendix 1:

## Detailed summary of Nukuhou River water quality

The Nukuhou River Catchment is 103 km<sup>2</sup> or 60% of the Ōhiwa Harbour Catchment.

The main state of environment water quality monitoring site on the Nukuhou River is at Glenholme Road (previously the Old Quarry site), where data has been collected since 1990. Mean flow of the Nukuhou River over the year 2015/2016 was around 2.2 m<sup>3</sup>/sec. Data from this site has been analysed for trends and are presented in Table 2.

### National Objectives Framework

#### National Objectives Framework (NOF)

The National Policy Statement includes a National Objectives Framework (NOF), which sets compulsory national values for freshwater to protect 'human health for recreation' and 'ecosystem health'.

The NOF has a series of 'bands' ranging from A to D, and National Bottom Lines for the following attributes in rivers:

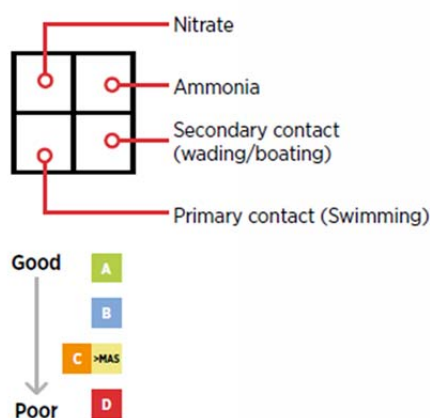
**To protect ecosystem health:** Nitrate, Ammonia

**To protect human health for recreation:** E.coli, Cyanobacteria.

#### NOF Results for the Nukuhou at Glenholme, 2016/2017

A	B
>MAS	A

#### NOF Banding

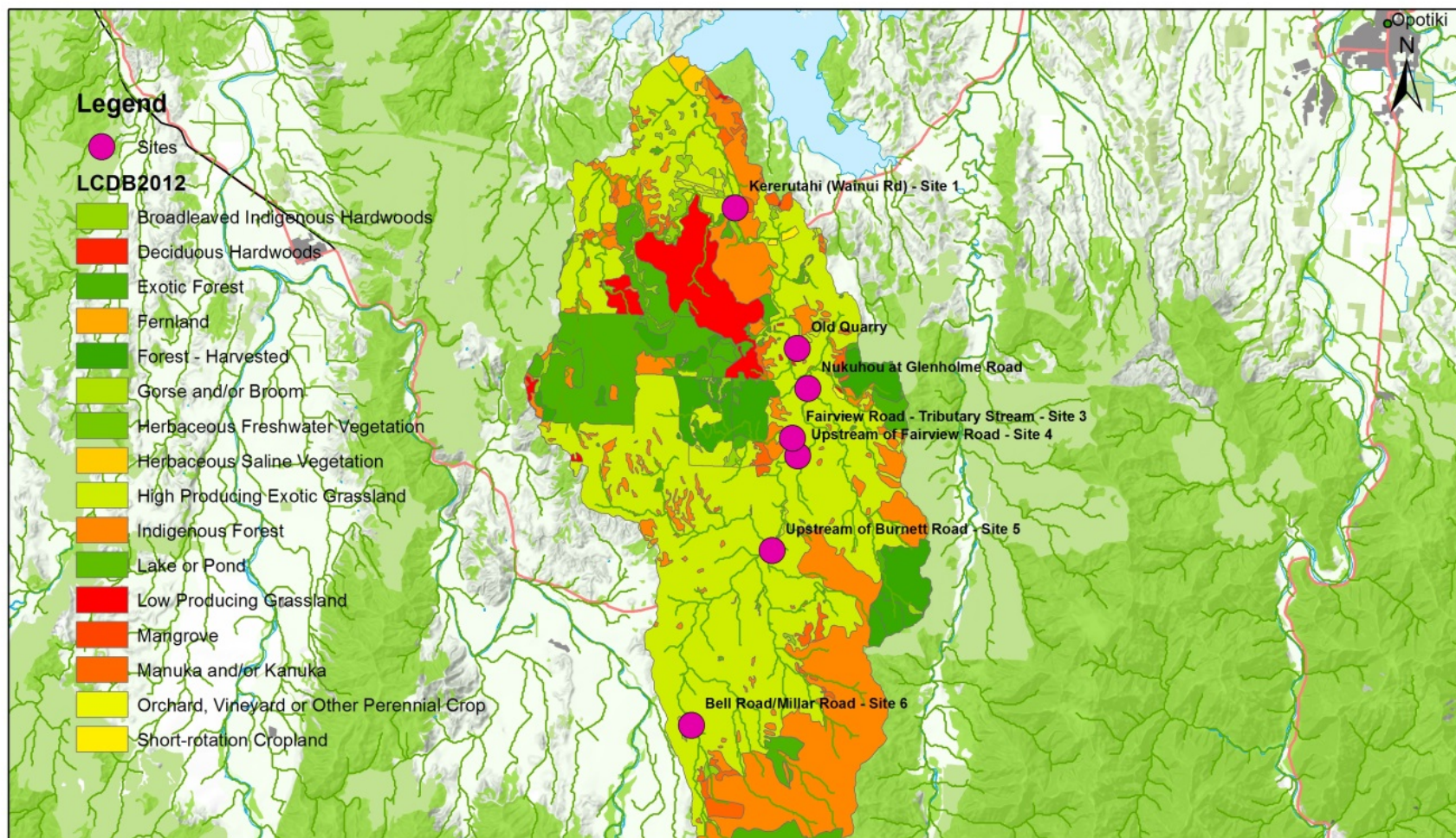


Annual medians (2017) for nitrate, ammonia, and secondary contact (wading/boating). 95<sup>th</sup> percentile for primary contact. MAS = values greater than the minimum acceptable state for primary contact only.

Table 2      *Assessment against the NOF at the Nukuhou at Glenholme site, between April 2016 and April 2017.*

Attribute	Units	Minimum	Maximum	Median	n	95 <sup>th</sup> Percentile	Primary Contact	Final Band/ 2 <sup>o</sup> Contact Band
<b>Ammonia</b>	mg/L	0.006897	0.052124	0.015737	12	N/A	N/A	B
<b>Nitrate-N</b>	mg/L	0.237	1.225	0.5625	12	N/A	N/A	A
<b>E.coli</b>	cfu	90	3400	210	12	3004	Fail	A

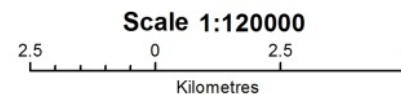




HORIZONTAL DATUM: New Zealand Geodetic Datum 2000  
 For practical purposes, NZGD2000 equates to WGS84  
 VERTICAL DATUM: Moturiki Datum  
 PROJECTION: New Zealand Transverse Mercator 2000

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## Nukuhou Monitoring Sites & Land Cover



Sheet 1 of 1  
 Printed 18/10/2016

## Trend analysis

There is continued improvement in water clarity and turbidity (as water clarity increases turbidity decreases – see trend direction in table below). The dissolved nutrient ammonium (NH<sub>4</sub>-N) and dissolved reactive phosphorus (DRP) have also shown a decline in average concentration (improvement) in the past 14 years potentially reflecting reduced inputs of effluent and fertilisers. Nitrate-nitrogen displays a significant declining trend, however this was not reflected in Total Nitrogen (TN).

Table 3 Nukuhou River at Glenholme Road Trend data, 2003-2017.

Site		Black disk (m)	SS (g/m <sup>3</sup> )	Turbidity (NTU)	E.coli (cfu/100mL)	NH <sub>4</sub> -N (g/m <sup>3</sup> )	TOx-N (g/m <sup>3</sup> )	TN (g/m <sup>3</sup> )	TP (g/m <sup>3</sup> )	DRP (g/m <sup>3</sup> )
Glenholme	Trend	↗	↘	↘	↘	↘	↘	□	□	↘
	Z Score	-3.04	-4.02	-4.97	-3.46	-2.65	-3.04	-0.48	0.45	-3.30
	P Value	<0.05	<0.001	<0.001	<0.05	<0.05	<0.05	>0.05	>0.05	<0.001

Trend: ↗↘ significant increasing or decreasing trend of parameter over time (p<0.05); □ not significant.

## Nitrate

A range of water quality parameters can be used to assess the life supporting capacity of waterways. Aquatic organisms require suitable water quality as defined by physical and chemical parameters such as temperature, dissolved oxygen, pH, lack of toxicants, and suitable habitat. Organism's survival depends on these parameters remaining in a suitable range.

Nitrate is an important bio-available plant nutrient, but can also be toxic at high concentrations. Ammonium has similar role as nitrate, but is a common waste product of domestic, industrial and agricultural wastewater.

Excess nutrient can cause increased growth of aquatic plant and algae. Excessive filamentous algae can smother habitat, impact oxygen and pH levels, can be detrimental to invertebrate and fish communities, and can have a negative aesthetic impact.

Nitrate concentrations at the Glenholme site have been declining with time, with the annual median since 2012 regularly falling under the 0.444 mg/L trigger value set by ANZECC guidelines (Figure 1). Nitrate concentrations in Ōhiwa Harbour are driven by those in the Nukuhou River, which elevate in response to flow (Figure 2).

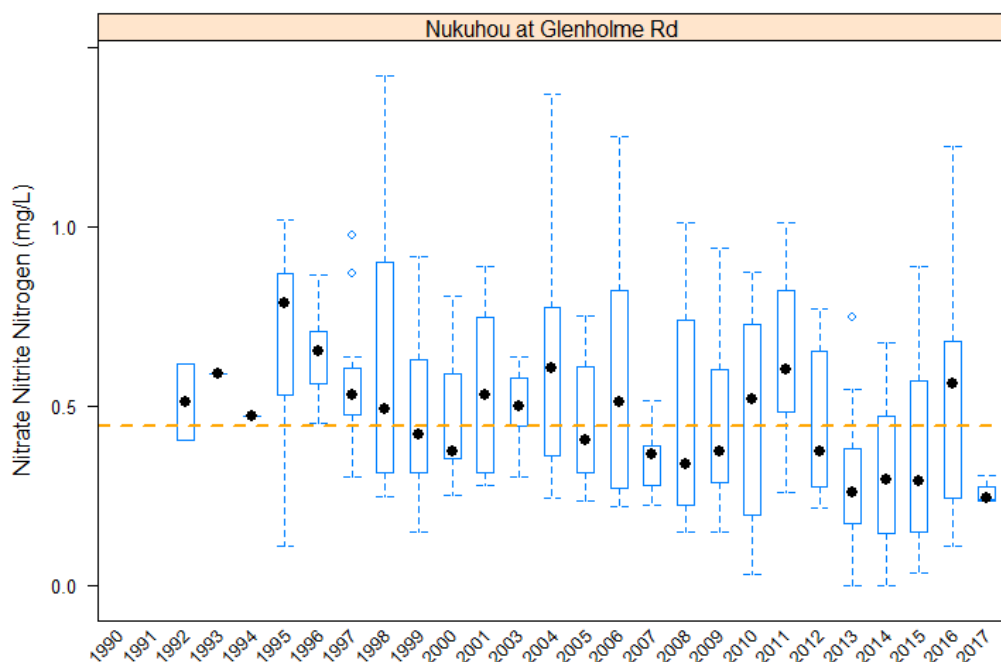


Figure 1 NNN over time at the Nukuhou at Glenholme Road. The orange line represents the ANZECC trigger value for NZ lowland rivers (0.444mg/L).

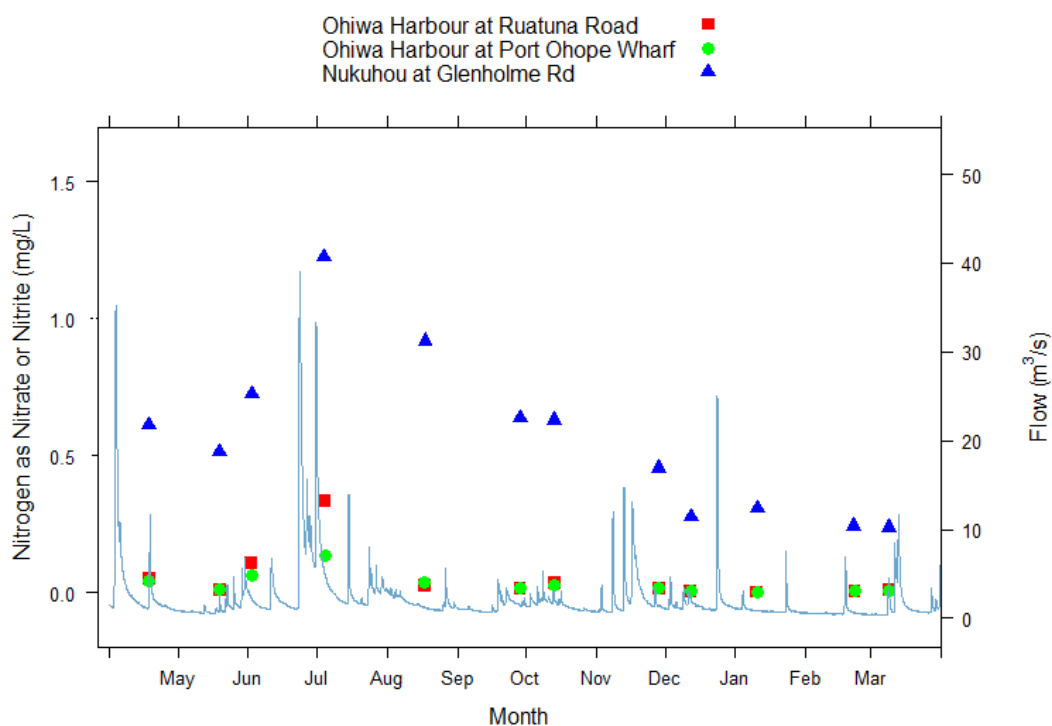


Figure 2 Nitrate-Nitrite Nitrogen concentrations at two estuarine sites (Ruatuna Road, and Port Ohope Wharf), and the Nukuhou at Glenholme Rd site. Flow from the Nukuhou at Glenholme Road site has been added on the right hand axis.



## Temperature and dissolved oxygen

High temperatures and low dissolved oxygen levels can put stress on aquatic organisms. Management of excessive elevation of temperatures is a key to species survival and growth. It has been found that stoneflies (Plecoptera) and mayflies (Ephemeroptera) were absent from rivers with annual maximum temperatures over 19°C and 21.5°C respectively.

Oxygen is essential to all forms of aquatic life and is part of the purification processes in waters. The concentration of dissolved oxygen (DO) in an aquatic environment is an important indicator of the environment's water quality. The oxygen content is dependent on temperature, salinity, photosynthetic activity of algae and plants, and atmospheric pressure. Dissolved oxygen also varies over 24 hour periods and seasonally, generally in relation to temperature and biological activity. Dissolved oxygen levels below 5 mg/l start to affect biological functioning and below 2 mg/l will lead to fish kills.

Some past sampling occasions back at Bell Road/Millar Road and Fairview sites have found temperatures in excess of 25 °C (Figure 3), at which some organisms can suffer physiological stress and potentially death. However, since 2013 summer peak temperatures have been much lower. One value in the summer of 2014/2015 at the Glenholme site had an observed value over 25 °C.

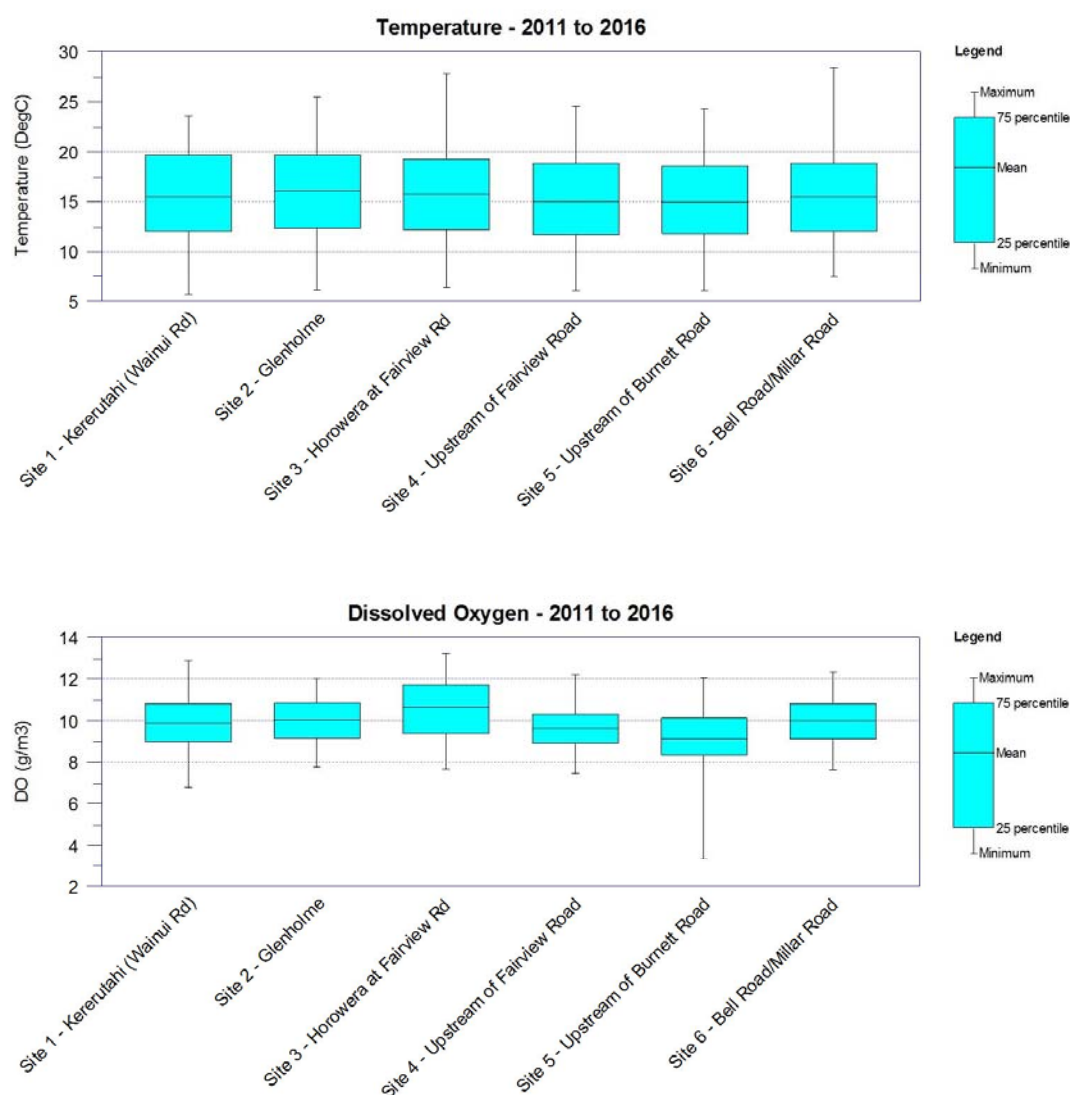


Figure 3 Box whisker plots of temperature and dissolved oxygen concentrations, 2011-2016.

## Suspended solids

Sediment can limit the ability of water to transmit light impacting photosynthesis of plants and algae, as well as the visual range of aquatic animals. Sediment can clog spaces used as refugia by benthic invertebrates and fish, and can also alter availability of food resources. Visual clarity also affects the contact recreational safety and visual amenity of rivers. Visual clarity (measured horizontally by sighting a black disk), turbidity (cloudiness), and suspended solids concentration are all most often strongly linked.

The lowest SS concentrations in the last five years Figure 4 occur in the Horowera (Site 3) and highest at Site 4 upstream of Fairview Road. Monthly sampling appears to have picked up less frequent elevated suspended solids (SS) at high concentrations, which may in part be due to lower average flows in some recent years (Figure 5). This has resulted in what appears to be decreasing trend in SS at the Gleholme/Quarry site over the past 25 years. Caution in interpreting this trend must be taken as the site has moved, although the sites in the catchment do show a similar decrease in SS over the recent years yielding some confidence that a reduction in sediment input to the stream is occurring.

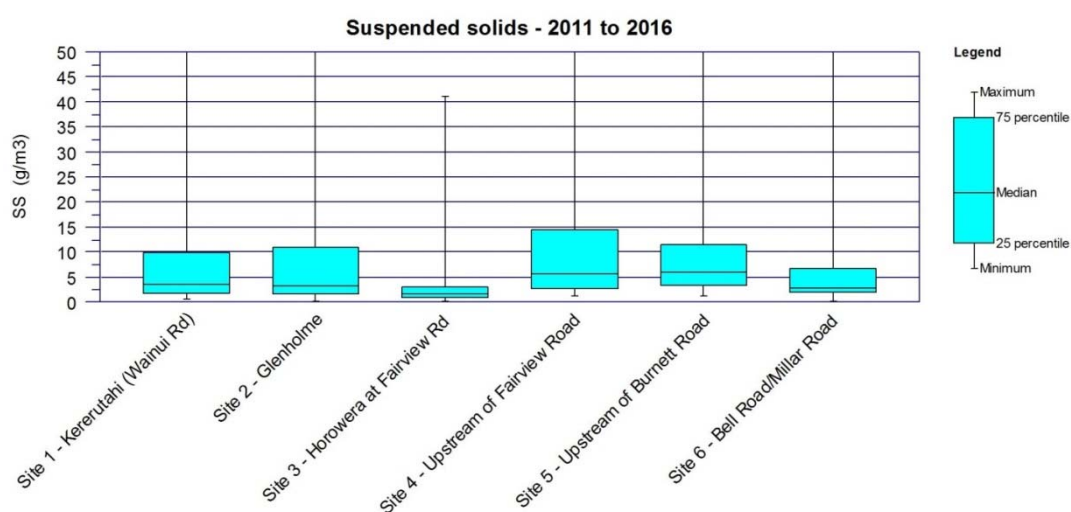


Figure 4 Box whisker plots of Suspended solids concentrations, 2011-2016.

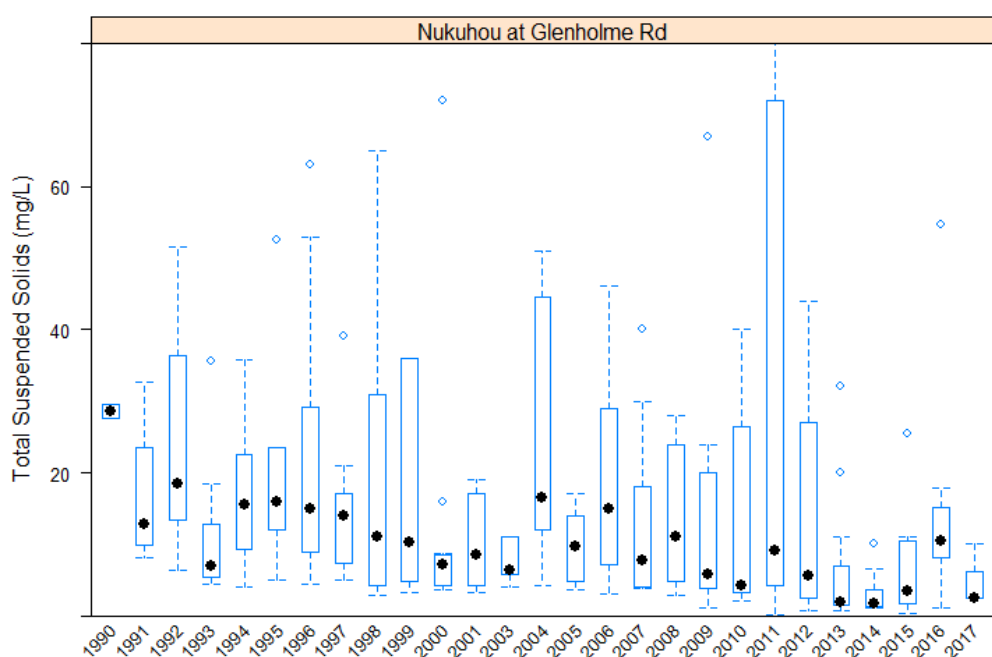


Figure 5 TSS at the Nukuhou at Glenholme site, over time.

## Indicator bacteria

If human or animal faecal matter finds its way into waters of recreational value or water taken for drinking, there is a risk that water users will be exposed to a diverse range of pathogenic (disease causing) micro-organisms. A variety of organisms are present in faecal matter such as viruses, bacteria, protozoa (single cell organisms), and helminths (nematodes).

Indicator micro-organisms are used to assess recreational water quality. It is difficult and impractical to measure all potentially pathogenic micro-organisms in water. Indicator micro-organisms give an indirect measure of pathogen levels. The bacteriological indicators chosen are associated with the gut of warm-blooded animals and are common in faecal matter. While these indicator bacteria are not generally harmful themselves, they do indicate the presence of harmful pathogens.

Faecal contamination of freshwater is measured most often by indicator bacteria faecal coliforms or *E.coli*. Faecal coliform concentrations are shown below along with seasonal changes for each site (Figure 6). Concentrations are lower in winter and higher in summer, which may be a factor of stocking rates and higher flows in winter.

On average the sites with the higher indicator bacteria concentrations are Sites 4 – upstream of Fairview Road and Site 5 upstream of Burnett Road. Lowest concentrations come from the Horowera Stream, which is expected as much of this sub-catchment dominated by exotic forestry.

Almost all sites show a significant declining trend in concentrations, although these are not adjusted for flow (Figure 7). The downward trend in the indicator bacteria *E.coli* is also observed at the Glenholme site, although there has been an increase in concentrations in the last year. This is in line with other sites monitored in the catchment. If this trend continues or stabilises at a low level this may also be an indication of improved agricultural system in this catchment.

Nukuhou is the largest freshwater input to Ōhiwa Harbour so limiting faecal contamination from this source is important to protect the recreational values of the harbour. Swimming and shellfish water quality are both monitored at the Ōhiwa Harbour reserve boat ramp over the summer period. Results over the last five years generally indicate excellent swimming water quality and water quality suitable for taking shellfish for consumption. However in the 2016/2017 bathing season there were three exceedances of the 43 MPN/100 mL guideline which exceeds the 10% guideline set by MFE/MoH (Figure 8).

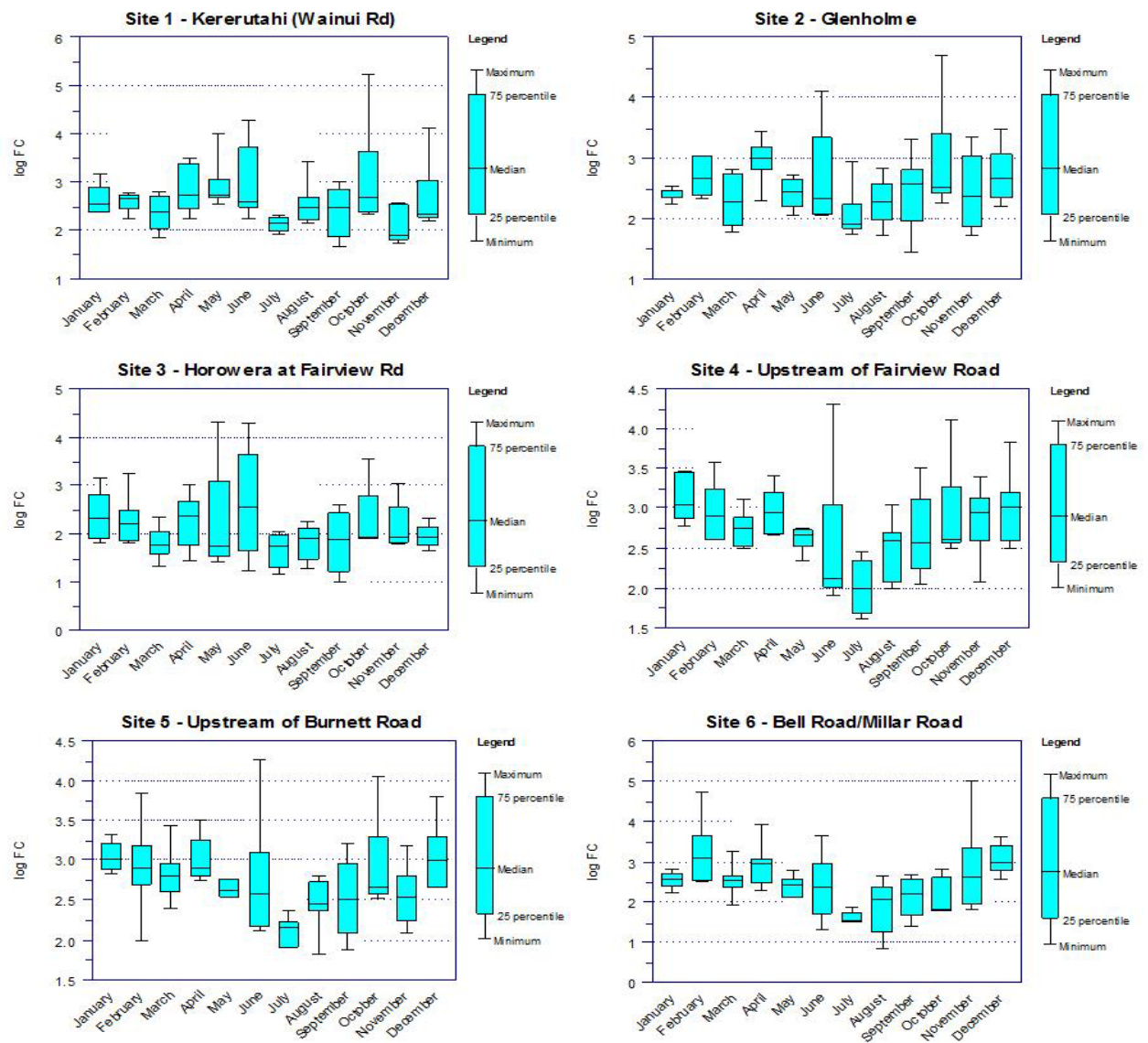


Figure 6 Faecal coliform seasonal box whisker plots (n/100 ml).

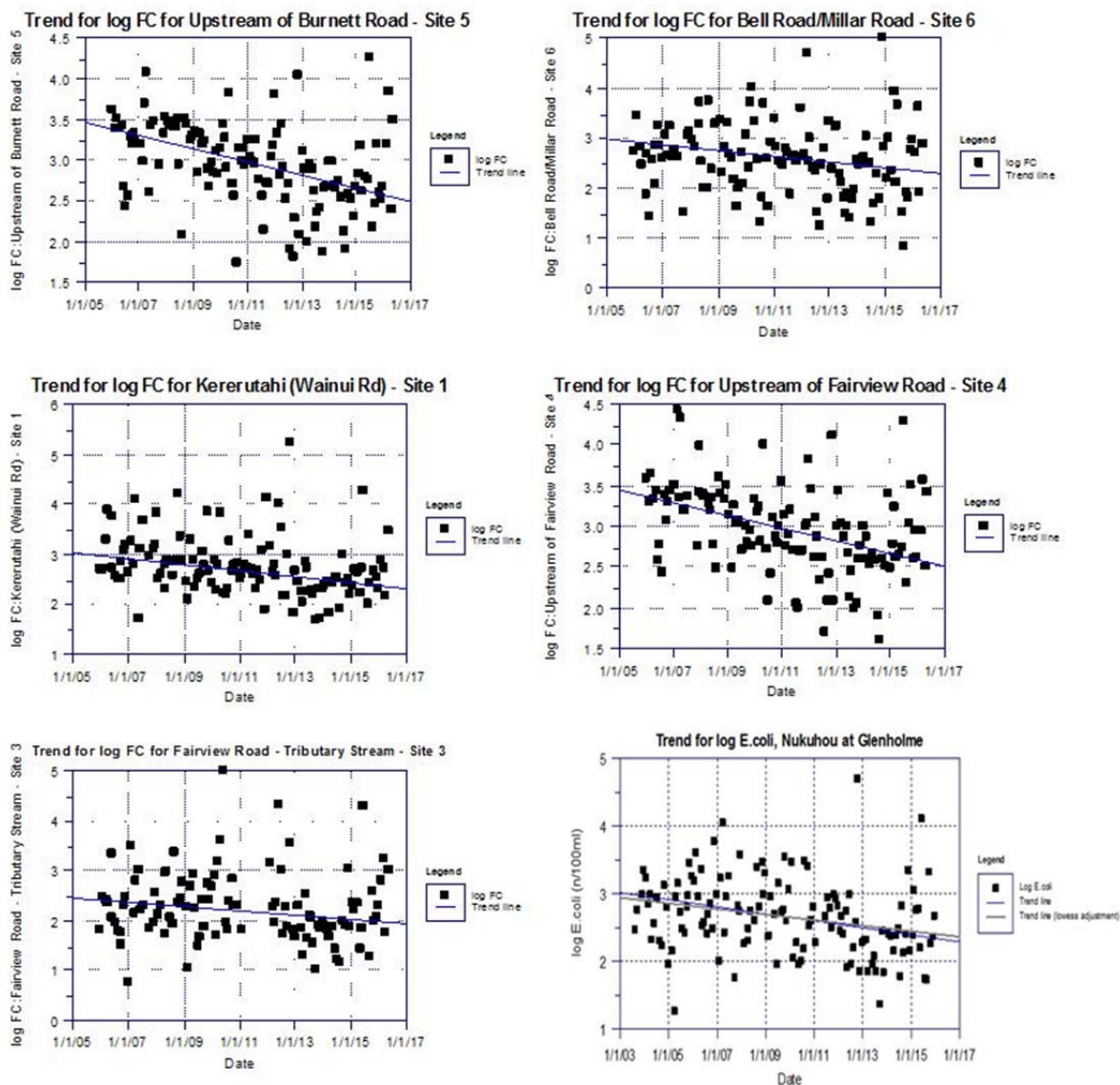


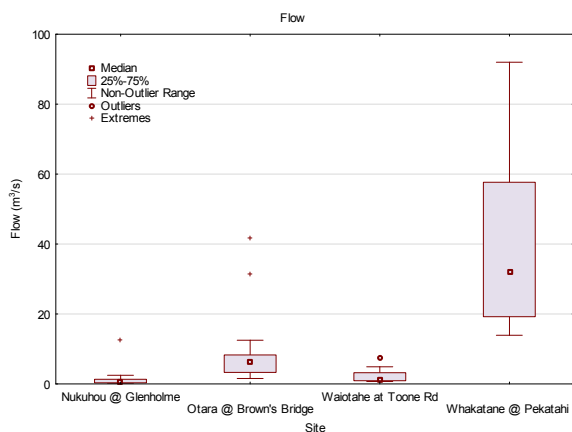
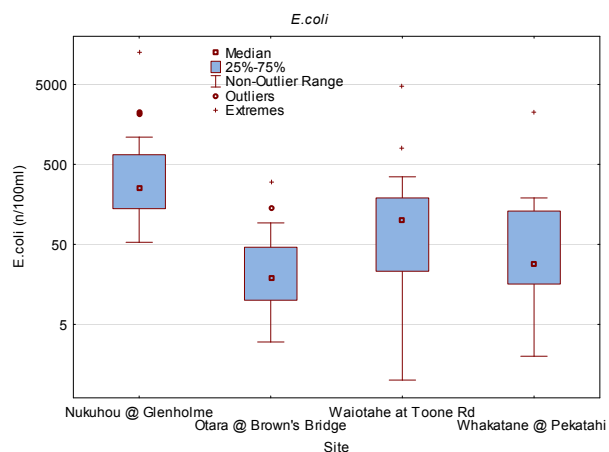
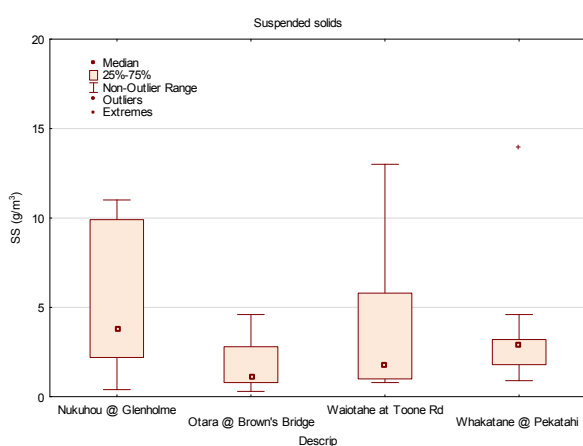
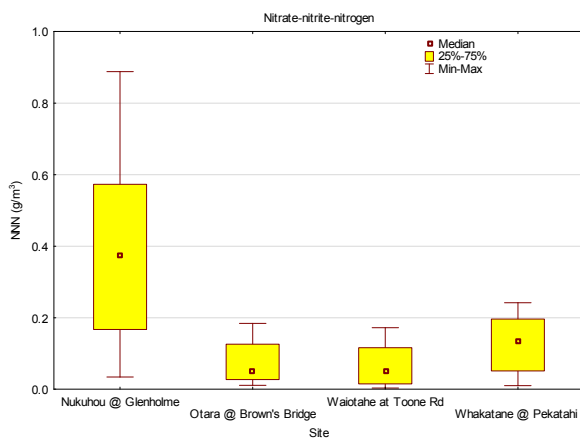
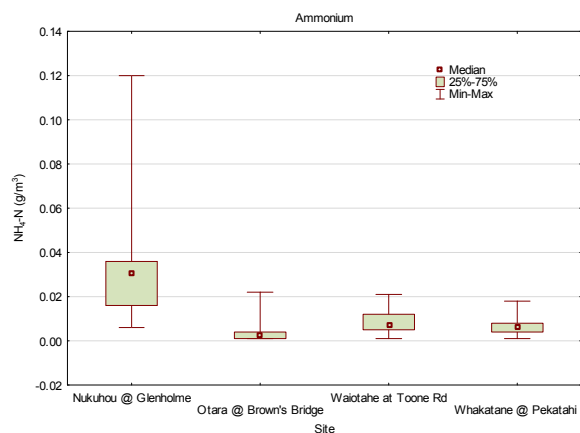
Figure 7 Trend in log E.coli concentrations, Nukuhou at Glenholme.





## Water quality characteristics comparison

2014/2015 data is used below to compare some water quality parameters with similar rivers systems in the eastern Bay of Plenty.



# **PRESENTATION - State of Ohiwa Harbour and Catchment presentation**



**Report to:** Ōhiwa Harbour Implementation Forum

**Meeting date:** 12 September 2017

**Report from:** Wayne O’Keefe, Indigenous Landscape

**Title:** 2017 Re-survey of Selected Threatened, at Risk and Other Significant Native Plants in the Ohiwa Harbour Catchment.

**Author:** Wayne O’Keefe, Indigenous Landscape Consultant

### 1. Executive Summary

Wildlands Consultants carried out a survey of threatened plants in the Ōhiwa Catchment in 2011. I have resurveyed these plants this year. I found that many of the plant species are still present with some increasing in number though a few appeared to be no longer present. This report summarises the survey findings.

### 2. Background

The 2011 report by Wildlands Consultants, Report No 2616 *‘Field Survey of Selected Threatened, at Risk and Other Significant Indigenous Plants in the Ohiwa Harbour Catchment’* made recommendations centred mainly on re-surveying plant populations to confirm presence and/or absence as well as noting management issues and, suggested, if feasible, collecting propagation material to ensure the survival of the plants. This 2017 survey implemented these recommendations.

The survey work was undertaken with the help of DoC staff Pete Livingstone, Tawa Kingi and Hori Barsdell. The survey focused on 18 species of native plants located at seven different locations of mixed land tenure around the harbour i.e. private, District Council and Department of Conservation. Some species occurred at more than one site.

### 3. Findings

Of the 18 species surveyed:

- Seven were found to in a stable condition i.e. although no apparent recruitment at the site was noted, population sizes had not appeared to have reduced.
- Six species were found to be recruiting well with higher numbers found in 2017 than in 2011. Very interestingly all sites where these plants grow i.e. Whangakopikopiko, Uretara, Claydon Place, Waiotane Scenic Reserve and Ford covenant all benefit from pest control. A good example of recruitment was *Pimelea tomentosa* at Claydon Place Ohope, having recorded three seedlings in 2011, with a further 18 found in 2017.

- Three species, *Ficinia spiralis* (Pingao), *Poa billardierei* (hinarepe) and *Austrostipa stipoides* (buggar grass) were absent at their 2011 locations at Whangakopikopiko and Otao Domain. It is surmised this is due to habitat loss through the localised erosion these places have experienced in recent years.
- One species, *Austroderia toetoe* (toetoe) was found to be in decline at Hiwarau (from three plants to just two plants). However it was found growing at a new location at Bryans Beach on land that is now part of Onekawa Te Mawhai Regional Park. Seed were collected from these plants and given to Coastlands Plant Nursery for propagation.
- Four species from the 2011 report were unable to be located at Hiwarau, all very small, low growing plants. This could be due to seasonal conditions, habitat loss due to a change in the micro environment or discrepancy of GPS co-ordinates making it difficult to find such small plants.

Of the seven areas surveyed, six are actively cared for by community group(s), and of these, five were sites where the plants appeared to be doing well. Conversely, Hiwarau, although benefitting from pest animal control, could also benefit greatly from pest plant control. Grey willow and pampas grass were identified as requiring management in the 2011 report and with both these plants having the ability to (and in places have) upset the delicate balance of this special wetland habitat to the detriment of native species, their control should be considered a high priority. The full survey report can be found in appendix 1 and a map of plant locations in appendix 2.

#### 4. Future management

Suggestions for future management:

- Implement a pest plant control programme for Hiwarau wetland.
- Develop a propagation schedule in conjunction with a suitably qualified plant nursery.
- Identify suitable sites for re-introduction of propagated species.
- Continue pest control. It is widely accepted that rodents impact our native flora by eating flowers and seeds, therefore often eliminating a plant's ability to reproduce. Continued rodent control should go a long way to safeguard the future of these plant populations.
- Re-survey populations in 2022.

#### 5. Recommendations

That the Ōhiwa Harbour Implementation Forum under its delegated authority, receives the report '**2017 Re-survey of Selected Threatened, at Risk and Other Significant Native Plants in the Ohiwa Harbour Catchment**'.

**Wayne O'Keefe**  
Indigenous Landscape

**30 August 2017**

**FINDINGS OF A RE-SURVEY OF SELECTED  
THREATENED, AT RISK AND OTHER SIGNIFICANT  
NATIVE PLANTS  
IN THE OHIWA HARBOUR CATCHMENT**

Prepared by: Wayne O'Keefe  
For: Bay of Plenty Regional Council  
August 2017

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## Background

In 2011, Bay of Plenty Regional Council (BOPRC) commissioned a report titled: **Report 2016 from Wildland Consultants Ltd, 'Field Survey of Selected Threatened, At Risk, and Other Significant Indigenous Plants in the Ohiwa Harbour Catchment'**. As well as a field survey, this report made recommendations on the future priorities, management and monitoring of the plants surveyed. In 2017, Wayne O'Keefe from Indigenous Landscape was tasked with undertaking follow up work in line with the recommendations made in the report.

### 1. Method

This project involved re-visiting the 2011 survey sites and confirming presence or absence of plant species noted at that site, commenting on any recruitment or apparent decline in numbers since 2011, noting environmental factors that have the potential to affect the sustainability of the populations and to collect propagation material if practicable. The management requirements written into this report were taken from the original 2011 Wildlands report and added to if thought relevant. Four species within Hiwarau wetland were not able to be found. This may well have been down to GPS anomalies as the 'easier to spot' *Astelia grandis* co-ordinates were found to differ by 25m between 2011 and 2017.

### 2. Acknowledgements

Thanks to Peter Livingstone, Tawa Kingi, and Hori Barsdell from Department Of Conservation for helping with the survey, also to Margaret and Stuart Slade for searching for *Adelopetalum* orchid in Waiotane Scenic Reserve and providing boat access to Urutara Island. Thanks to Josie Mortensen for allowing access to Hiwarau Wetland and to Jimmy Sullivan for showing us the king fern thriving on his property at Stanley Road.

### 3. Species

#### ***Adelopetalum tuberculatum* – Waiotane Scenic Reserve (At Risk- Naturally Uncommon)**

A very small, epiphytic orchid that appears to favour using rewarewa as a host plant. Stuart and Margaret Slade as well as other members of their Tramping Club and Care Group kindly offered to re-survey for these plants in the Reserve. They were unable to locate the 2011 plants (suspect due to GPS co-ordinate confusion) but they did identify the plant at several other sites in the reserve. This plant appears to be quite common within Waiotane Scenic Reserve.

#### **Management Requirements**

None.

#### **Monitoring Requirements**

Five yearly site inspections.

#### **Propagation material obtained**

No, not easily done.



### **Astelia grandis – Hiwarau Wetland (Regionally Uncommon)**

Five plants were found in 2011. These plants were once again found in 2017 and looked to be healthy. There appeared to be no signs of recruitment at Hiwarau Wetland, as further survey showed no more additional plants.

#### **Management Requirements**

Establish fruiting timeframe and collect berries and propagate to establish further populations.  
Control grey Willow and radiata pine.

#### **Monitoring Requirements**

Five yearly site inspections.

#### **Propagation material obtained**

No fruit present.



DOC Ranger, Pete Livingstone with *Astelia grandis*

### **Austroderia toetoe - Hiwarau Wetland (Not threatened)**

In the 2011 survey two plants were found within the wetland. However, in 2017, the plants were no longer present. The site gave the appearance of having been sprayed in the past and it is a possibility that the plants were targeted by mistake, being thought of as exotic pampas grass. Two seedlings were found in the immediate vicinity, but they were struggling due to competition and would not be expected to survive to maturity.

#### **Management Requirements**

As per 2011: Control pampas grass within wetland by experienced operator.

#### **Monitoring Requirements**

Five yearly site inspections.

#### **Propagation material obtained**

Not from this site.

**Austroderia toetoe – Onekawa Te Mawhai Regional Park (Not threatened)**

This site was included in the survey under request from Tim Senior. The site was on recently acquired land by BOPRC with the intention of including it in the Regional Park. Tim had seen what he thought to be *Austroderia* growing in a wetland on the property.

During the survey, two plants were found growing in amongst *Cyperus* and *Baumea*. Grey willow were also present as well as dense kikuyu. This species has not been previously recorded at this site.

GPS co-ordinates **E1966475 N5786603**

**Management Requirements**

Control willow and kikuyu. Establish further populations at this site.

**Monitoring Requirements**

Five yearly site inspections.

**Propagation material obtained**

Yes. Seed heads given to Coastlands Plant Nursery for growing on.



*Austroderia toetoe*, Bryan's beach



***Austrostipa stipoides* – Uretara Island (Regionally Uncommon, Not threatened)**

In 2011 c.19 plants were seen at the northern end of the island. Thankfully, this population appears to be stable and in 2017 c.20 plants were noted, some of which seedlings. This plant might be benefiting from the pest control being undertaken on the island.

**Management Requirements**

None.

**Monitoring Requirements**

Five to ten yearly site inspections.

**Propagation material obtained**

No. Seeds already blown.



*Austrostipa stipoides* thriving on Uretara Island



**Austrostipa stipoides – Whangakopikopiko Wildlife Refuge (Regionally Uncommon, Not Threatened)**

This population appears to be thriving, arguably benefitting from pest control. In 2011 six plants were noted. As well as locating these plants in the 2017 survey, a further 15 plants were found in that general area. However, all plants are potentially under threat from encroaching sea couch which has the ability to smother growth and halt seed germination.

**Management Requirements**

Control sea couch.

**Monitoring Requirements**

Five yearly site inspections.

**Propagation material obtained**

No. Seeds already blown.



Newly found colony of *Austrostipa stipoides* on Whangakopikopiko.



**Austrostipa stipoides – Otao Domain (Regionally Uncommon, Not threatened)**

In 2011 three plants were noted at this site, down from seven plants in 1984 (Beadel). The site has experienced erosion events since 2011 and no plants were found at this site during the 2017 survey.



Site of *Austrostipa stipoides* showing erosion in 2017.

**Bolboschoenus caldwellii – Harbour margin (Not threatened)**

In 2011, two populations of this plant were found. In 2017, these populations could not be found. Possible reasons being '*competition from other species and/or change to microsite conditions*' (Beadel 2011).

**Management Requirements**

None.

**Monitoring Requirements**

Five yearly site inspections.

**Propagation material obtained**

No.

**Dianella sp. (Possibly D. haemata) Uretara Island**

In 2011 c.40 plants were found. This population was again found in 2017 and looked to be doing well. Recommendations were made in 2011 to positively identify this plant as its characteristics do not appear to fit a particular species. For proper identification, samples with flowers will need to be obtained. The plants had no flowers during the time of the 2017 survey. A special trip will be needed to collect samples when it is flowering, possibly something the Care Group could help with.

**Management Requirements**

Continue pest animal control.

**Monitoring Requirements**

Two to five yearly site inspections. Confirm species.

**Propagation material obtained**

No.

**Drosera binata – Hiwarau wetland (Not Threatened)**

A small population was found growing on sphagnum moss in 2011. During the 2017 survey, the plants were unable to be found. This could be due to the difficulty in relying on GPS accuracy to find such a small plant or the plant itself, being cold sensitive, was dormant.

**Management Requirements**

Control grey willow.

**Monitoring Requirements**

Five yearly site inspections.

**Propagation material obtained**

No.

**Epilobium pallidiflorum – Hiwarau wetland (Not threatened)**

Four plants were found in 2011, not previously recorded within the Taneatua ED. This part of the wetland was hard to navigate due to the dense vegetation and blackberry. No plants could be found in 2017. This is possibly due to the environmental changes brought on by the domination of grey willow in this part of the wetland – *‘if grey willow is not controlled in the wetland, then this species is likely to disappear from the wetland’* – (Beadle 2011)

**Management Requirements**

Control grey willow.

**Monitoring Requirements**

Five yearly site inspections.

**Propagation material obtained**

No.

***Ficinia spiralis* – Whangakopikopiko Wildlife Refuge (At risk – Declining)**

Over 20 Pingao plants were noted in 2011. However, no plants were found during the 2017 survey. This is likely due to erosion events that have occurred on the island in recent years.

***Hydrocotyle pterocarpa* – Hiwarau wetland**

Found in 2011 growing over an area of approximately 2 m<sup>2</sup> and previously not recorded in the Taneatua ED. The plant was not found in 2017.

**Management Requirements**

Control grey willow.

**Monitoring Requirements**

Five yearly site inspections.

**Propagation material obtained**

No.

***Kunzea toelkenii* - Whangakopikopiko Wildlife Refuge (Threatened – Nationally Vulnerable)**

‘Thornton kanuka’ forms small areas of forest on the island. In recent years, erosion events have seen a number of the mature trees succumb to the tides. However, remaining trees are healthy and plantings undertaken by students of Waioatahe Valley School are thriving. Some have reached 1.5m in height.

**Management Requirements**

Continue pest animal and plant control.

**Monitoring Requirements**

Monitor annually for mortality and natural regeneration. Establish a series of photopoints.

**Propagation material obtained**

Not during this survey.





Waioatahe Valley School plantings thriving.



Erosion events have seen several older trees succumb to the tides.



**Lophomyrtus bullata – Matekerepu Stream banks (Not threatened)**

This area was not surveyed in 2011. In 2017, five trees were found in two locations along the streamside growing on grassland/treeland margin. GPS co-ordinates **E1961439 N5780184** and **E1961489 N5780301**. The trees looked to be fairly old and in generally poor condition. No seedling recruitment noted nearby, possibly due to absence of rodent control.

**Management Requirements**

None.

**Monitoring Requirements**

Five yearly monitoring.

**Propagation material obtained**

Not during this survey. One tree held a few fruit at its extremity but they were unobtainable.



*Lophomyrtus bullata*, Ramarama growing alongside the Matekerepu Stream

**Lophomyrtus bullata – Stanley Road (Not threatened)**

One tree (in poor health) was noted on private property on Stanley Road in 2011 but due to the landowner being overseas, was not confirmed as being still alive during the 2017 survey.

**Nertera scapanioides – Hiwarau wetland (Not threatened)**

Two plants confirmed during the 2011 survey, not previously recorded in the Taneatua ED. The plants were not able to be located during the 2017 survey. They may well still exist, but can be easily overlooked due to the size of the small plant and the accuracy of the GPS.

**Management Requirements**

Grey willow of high priority.

**Monitoring Requirements**

Five yearly monitoring.

**Propagation material obtained**

No.

**Pimelea tomentosa – Claydon Place, Ohope (Threatened – Nationally Vulnerable)**

This plant appears to be doing well in this locale. In 2011 only three seedlings were noted but in 2017 a further 18 plants were found over two locations. GPS co-ordinates **E1958128 N5788559** and **E1958090 N5788528**. In both locations the plants were growing in drier locations amongst Coprosma rhamnoides, Dianella nigra and bracken fern and under pohutukawa canopy. Recent pest control operations may well have played a part in this plant doing well at Claydon Place.

**Management Requirements**

Consideration given to planting within existing suitable habitat and identifying further sites for re-introduction.

**Monitoring Requirements**

Twice yearly inspections.

**Propagation material obtained**

No fruit at the time of survey.

**Pimelea tomentosa – Uretara Island (Threatened – Nationally Vulnerable)**

No plants found in the 2011 survey. A plant has since been found by Margaret Slade on the island. This would suggest that there are other plants on the island and could warrant further survey. This finding may suggest this species is not as uncommon as previously suspected around the harbour margins.



### **Management Requirements**

Consideration given to planting within existing suitable habitat and identifying further sites for re-introduction.

### **Monitoring Requirements**

Twice yearly inspections.

### **Propagation material obtained**

No fruit at time of survey.



*Pimelea tomentosa* thriving at Claydon Place.

### ***Poa billadierei* – Whangakopikopiko Wildlife Refuge (At Risk –Declining)**

One plant was found in 2011 on the island, but not found during the 2017 survey. It is suspected that it has succumbed to the erosion events the island has experienced in recent years.



**Ptisana salicina – Ford Covenant, Stanley Road (Declining)**

The survey in 2011 showed these plants are thriving within the Ford Covenant and the 2017 survey was no different. Literally hundreds of seedling plants were noted alongside the stream banks.

**Management Requirements.**

Deer control and wild kiwifruit control.

**Monitoring Requirements**

Annual inspections.

**Propagation material obtained**

No



Healthy King fern seedlings on stream bank in the Ford Covenant.

**Tetraria capillaris – Hiwarau wetland (Regionally uncommon)**

Found in 2011 growing in two locations in Hiwarau wetland and along Nukuhou Estuary margin. Population was assessed as healthy in 2017 although grey willow is encroaching into the Hiwarau wetland population and control should be considered.

**Management Requirements.**

Grey willow control.

**Monitoring Requirements**

Five yearly inspections.

**Propagation material obtained**

No.

**Veronica parviflora – Tunanui Estuary (Not threatened)**

Four trees were noted in 2011. Still present in 2017 although, as noted in 2011, they are old trees with no signs of recruitment at the site.

**Management Requirements**

Propagate and establish elsewhere.

**Monitoring Requirements**

Nil.

**Propagation material obtained**

No.



*Veronica parviflora* growing at Tunanui inlet.

#### 4. Summary of findings

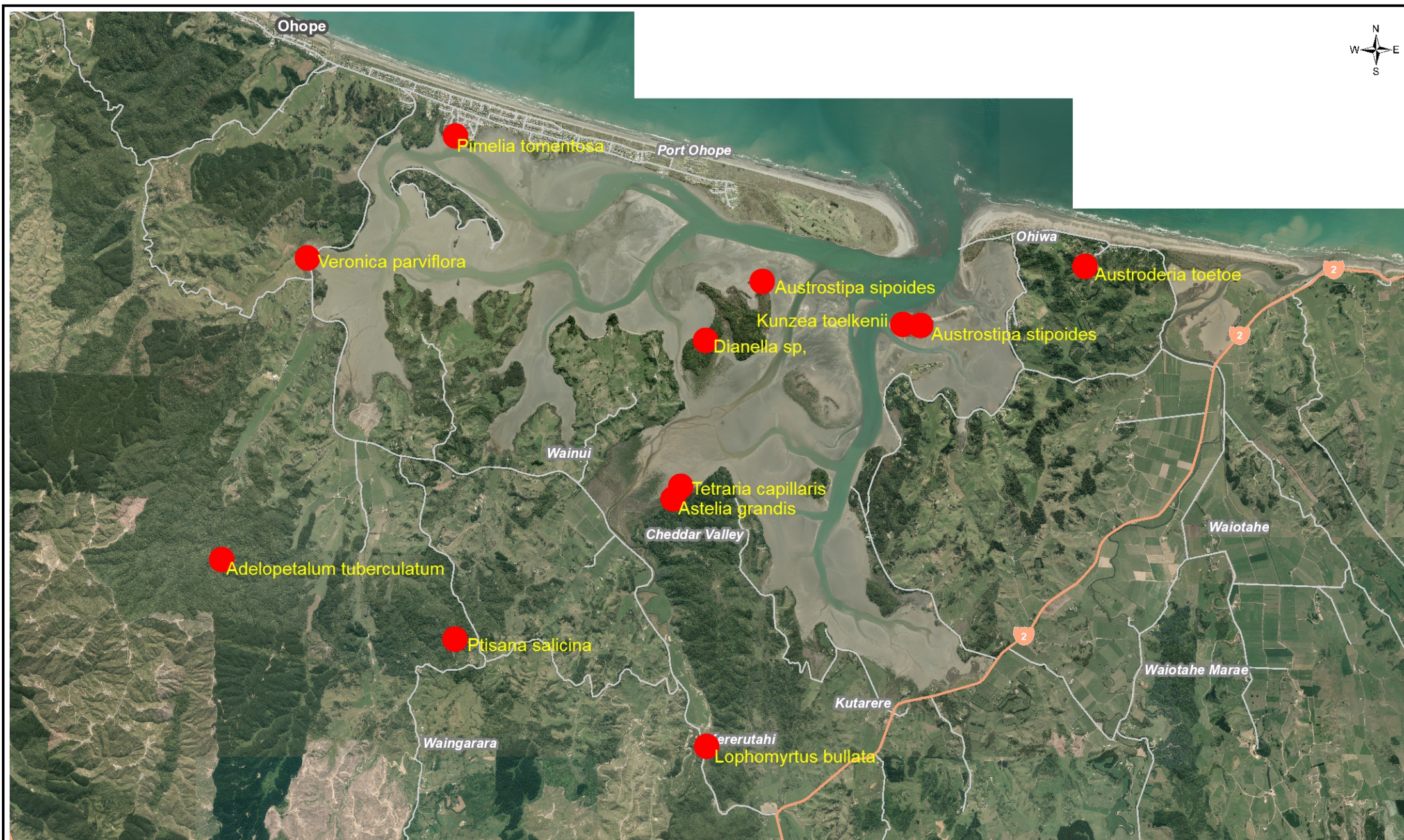
SPECIES	LOCATION	PRESENT IN 2011  Y/N	PRESENT IN 2017  Y/N	POPULATION ABSENT (A), RECRUITING (R), STABLE (S), DECLINE (D), NOT FOUND (NF)	COMMENTS
<i>Adelopetalum tuberculatum</i>	Waiotane, Uretara Island	Y	Y	S	
<i>Astelia grandis</i>	Hiwarau wetland	Y	Y	S	No apparent recruitment
<i>Austroderia toetoe</i>	Hiwarau wetland	Y	Y	D	Only two struggling seedlings found
	Onekawa	N	Y	S	Recent discovery
<i>Austrostipa stipoides</i>	Otao Domain	Y	N	A	Erosion.
	Uretara Island	Y	Y	R	Doing well.
	Whangakopikopiko	Y	Y	R	Doing well
<i>Bolboschoenus caldwellii</i>	Hiwarau wetland	Y	N	A	Possible competition
<i>Dianella</i> sp.	Uretara Island	Y	Y	S	Needs positive identification
<i>Drosera binata</i>	Hiwarau wetland	Y	N	NF	
<i>Epilobium pallidiflorum</i>	Hiwarau wetland	Y	N	NF	
<i>Ficinia spiralis</i>	Whangakopikopiko	Y	N	A	Erosion
<i>Hebe parviflora</i>	Tunanui inlet	Y	Y	S	
<i>Hydrocotyle pterocarpa</i>	Hiwarau wetland	Y	N	NF	
<i>Kunzea toelkenii</i>	Whangakopikopiko	Y	Y	R	
<i>Lophomyrtus bullata</i>	Stanley Road	Y			Not surveyed
	Matekerepu Stream	N	Y	S	
<i>Nertera scapanioides</i>	Hiwarau wetland	Y	N	NF	
<i>Pimelea tomentosa</i>	Claydon Place	Y	Y	R	Doing well
	Uretara Island	N	Y	R	Seedling found
<i>Poa billardierei</i>	Whangakopikopiko	Y	N	A	Erosion
<i>Ptisana salicina</i>	Ford Covenant	Y	Y	R	Doing well
<i>Tetraria capillaris</i>	Hiwarau wetland	Y	Y	S	

## 5. Management/Monitoring Requirements

SPECIES	MANAGEMENT/MONITORING REQUIREMENTS	PROPAGATION METHOD/TIMEFRAME
<i>Adelopetalum tuberculatum</i>	<ul style="list-style-type: none"> <li>• Nil management</li> <li>• Survey in 2022</li> </ul>	N/A
<i>Astelia grandis</i>	<ul style="list-style-type: none"> <li>• Collect seed and propagate</li> <li>• Establish further populations</li> <li>• Control grey willow, radiata pine and <i>Alisma plantago-aquatica</i></li> <li>• Resurvey in 2022</li> </ul>	Collect fruit in Autumn 2018
<i>Austroderia toetoe</i> (Bryans Beach)	<ul style="list-style-type: none"> <li>• Monitor spread of kikuyu</li> <li>• Survey in 2020</li> <li>• Propagate and establish additional populations.</li> </ul>	Collect seed late autumn, early winter 2018
<i>Austroderia toetoe</i> (Hiwarau wetland)	<ul style="list-style-type: none"> <li>• Nil management</li> <li>• Nil monitoring</li> </ul>	
<i>Austrostipa stipoides</i> (all sites)	<ul style="list-style-type: none"> <li>• Monitor spread of sea couch</li> <li>• Collect seed</li> <li>• Re-monitor in 2022</li> </ul>	Collect seed in Summer/Autumn 2018
<i>Bolboschoenus caldwellii</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> </ul>	
<i>Dianella</i> sp.	<ul style="list-style-type: none"> <li>• Collect flowers for positive I.D.</li> <li>• Re-survey in 2022</li> </ul>	
<i>Drosera binata</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> </ul>	N/A
<i>Epilobium pallidiflorum</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> <li>• Grey willow control</li> </ul>	
<i>Ficinia spiralis</i>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	N/A
<i>Hebe parviflora</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> <li>• Possibly establish further populations around the harbour.</li> </ul>	Collect seed Summer/Autumn 2018
<i>Hydrocotyle pterocarpa</i>	<ul style="list-style-type: none"> <li>• Grey willow control</li> <li>• Re-survey in 2022</li> </ul>	N/A
<i>Kunzea toelkenii</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> </ul>	Collect seed Summer/Autumn 2018
<i>Lophomyrtus bullata</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> </ul>	Collect seed Autumn 2018
<i>Nertera scapanioides</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> </ul>	N/A
<i>Pimelea tomentosa</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> </ul>	
<i>Poa billardierei</i>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	N/A
<i>Ptisana salicina</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> </ul>	N/A
<i>Tetraria capillaris</i>	<ul style="list-style-type: none"> <li>• Re-survey in 2022</li> </ul>	N/A











**Receives Only – No Decisions**



**Report To:** Ōhiwa Harbour Implementation Forum

**Meeting Date:** 12 September 2017

**Report From:** David Phizacklea, Regional Integrated Planning Manager

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## **Update on the Proposed Regional Coastal Environment Plan**

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### **Executive Summary**

An update on the Proposed Regional Coastal Environment Plan (Proposed Plan) is provided in this report.

The Proposed Plan was publicly notified on 24 June 2014. Council released its decisions on the Proposed Plan in September 2015. Sixteen appeals to the Environment Court were subsequently received. The appeals related to mangrove management, tāngata whenua matters, surf breaks, harbour development zones, natural heritage provisions and mapping of landscape and biodiversity areas. The majority of the appeal points are now resolved; however, four matters are outstanding:

- Matakana Island – what part of the island is an outstanding natural feature and/or landscape.
- Iwi resource management – what additional provisions should be added to the plan to ensure the relationship of tangata whenua with their culture and traditions is appropriately recognised.
- Marine spatial planning – should a specific set of objectives, policies and rules be included in the plan for the coastal waters around Motiti.
- Natural heritage – should a consenting pathway be provided for regionally significant infrastructure that crosses areas of high natural heritage value (such as Ōhiwa Harbour).

Provisions in the Proposed Plan particularly relevant to Ōhiwa Harbour relate to natural heritage, mangrove management, harbour development and recreation and public access. The direction contained in the Proposed Plan aligns well with the Ōhiwa Harbour Strategy Te Rautaki mo Ōhiwa.

The majority of provisions relevant to Ōhiwa Harbour are now settled and the rules applying to activities in the coastal marine area have taken “legal effect” – the exception is the policy and rule framework applying to new regionally significant infrastructure.

### **Recommendations**

**That the Ōhiwa Harbour Implementation Forum under its delegated authority:**

## **1 Receives the report, Update on the Proposed Regional Coastal Environment Plan;**

### **1 Introduction**

The Regional Council is required by the Resource Management Act 1991 to produce a regional coastal plan, which promotes sustainable management of coastal resources in the Bay of Plenty region. The current Regional Coastal Environment Plan became operative in July 2003.

The second generation Proposed Bay of Plenty Regional Coastal Environment Plan ("Proposed Plan") was publicly notified on 24 June 2014. Following public hearings, and the release of the Council's decisions on submissions in September 2015, sixteen appeals to the Environment Court were received.

The appeals related to mangrove management, tāngata whenua matters, surf breaks, harbour development zones, natural heritage provisions and mapping of landscape and biodiversity areas. This report provides an update on progress made toward resolving appeals on the Proposed Plan and an overview of matters relevant to Ōhiwa Harbour.

### **2 Background**

The last update to this committee was in November 2015, just after appeals had been received, although staff have attended several Ōhiwa Harbour Strategy Coordination Group meetings in the interim. Appendix 1 provides an overview of progress since notification.

### **3 Current status of the Proposed Plan**

All rules in the Proposed Plan took 'legal effect' on 12 April 2017. This means that these rules now apply to activities in the coastal marine area, unless a specific rule is still subject to an appeal. Only two rules are still under appeal.

As the Proposed Plan has progressed a significant way through the Schedule 1 process and been subject to independent decision-making, substantial weight can be given to the other provisions (objectives, policies, schedules, methods and mapping) - except those still under appeal.

#### **3.1 Outstanding appeals**

The outstanding appeals relate to the following matters:

- Matakana Island – what part of the island is an outstanding natural feature and/or landscape.
- Iwi resource management – what additional provisions should be added to the plan to ensure the relationship of tangata whenua with and their culture and traditions is appropriately recognised.
- Marine spatial planning – should a specific set of objectives, policies and rules be included in the plan for the coastal waters around Motiti.
- Natural heritage – should a consenting pathway be provided for regionally significant infrastructure that crosses areas of high natural heritage value (such as Ōhiwa Harbour).

## **4 Implications for the work of the Ōhiwa Harbour Implementation Forum**

Staff have reviewed the provisions of the Proposed Plan in relation to the objective, policies and actions contained in the Ōhiwa Harbour Strategy Te Rautaki mo Ōhiwa. Generally, the two documents are well aligned, and the provisions contained in the Proposed Plan support the Strategy.

### **4.1 Health of Ōhiwa harbour and its tributaries, and Ecological Values**

Ōhiwa Harbour is recognised in the Proposed Plan as having high biodiversity values, outstanding natural character and as an outstanding natural feature and landscape.

The Proposed Plan supports protection and restoration of these values, and promotes integrated catchment management to mitigate sediment runoff and increasing sedimentation of harbours and estuaries.

The Proposed Plan also contains a suite of policies and rules specific to mangrove management. These provisions have become somewhat more complex as a result of the appeals process, but in essence:

- The following mangrove removal activities are permitted (and don't need a resource consent):
  - Seedling removal outside biodiversity "A" areas– most of Ōhiwa Harbour is a biodiversity "A" area.
  - Small scale removal for specific reasons (access, drains, bird roosting, structures).
  - 'Maintenance' of previously cleared areas.
- Any removal using "mobile machinery", such as hovercraft or diggers, needs consent.
- Removal from biodiversity "A" areas (such as Ōhiwa Harbour) that needs a consent has to be consistent with protection of identified biodiversity values.

### **4.2 Development within the natural context of the harbour**

Due to the harbour's outstanding natural heritage values (excluding the more modified Port Ōhope area), new structures require careful consideration. Structures required for one or more of the following purposes may be appropriate, subject to an assessment of effects:

- Protection, restoration or rehabilitation of biodiversity
- Improving:
  - water quality,
  - connections between freshwater and coastal water, or
  - improving cultural connections or natural processes
- Educational, scientific or passive recreation
- Navigation aids and navigation safety
- Regionally significant infrastructure [note – under appeal]

- Management of maritime incidents.

#### **4.3 Management of Recreation and Access**

Together with the national direction provided by the New Zealand Coastal Policy Statement, the Proposed Plan supports maintaining and improving public access to the coast and public open space. In summary, the policy direction is to:

- Maintain or enhance walking linkages.
- Maximise public use and access, and promote infrastructure (such as cycleways or walkways) that supports access.
- Ensure public access and open space is compatible with natural and cultural values.
- Consider future needs and climate change.

As the Proposed Plan moves into implementation, Methods 20 and 21 set out how the Regional Council will work with the community, tangata whenua and district councils to manage recreation and public access issues. The work of the Ōhiwa Harbour Strategy Co-ordination group will be an important mechanism for implementing these methods around Ōhiwa Harbour.

#### **4.4 Tikanga and Kawa for Ōhiwa Harbour**

The Proposed Plan identifies the harbour as an Area of Significant Cultural Value, and contains a suite of directive policies that require decision-makers to:

- Recognise and provide for Māori and their culture and traditions, including traditional Māori uses, practices and customary activities.
- Recognise and provide for kaitiakitanga.
- Take into account iwi and hapū management plans.
- Avoid significant adverse effects on areas of historical or cultural significance to tangata whenua.
- Consider use of consent conditions that incorporate mātauranga Maori based methods or cultural indicators.
- Involve tangata whenua in establishing appropriate mitigation, remediation and/or offsetting measures.

### **5 Implications for Māori**

Tangata whenua engagement occurred during review of the existing Plan and development of the Proposed Plan. This engagement resulted in a significant number of Māori groups (32) submitting on the Proposed Plan, many of whom presented to the Hearing Committee.

There are some tangata whenua groups seeking additional changes to the Proposed Plan to further recognise and provide for Māori values. Whether, and what, changes will be made to the Proposed Plan will be decided by the Environment Court.

There are a number of methods included in the Proposed Plan that direct Council to work with tangata whenua to identify culturally degraded sites and better assess and

identify maori values associated with other areas, including consideration of mātauranga maori, and options for protection and restoration of sites. An implementation plan will be developed for the proposed Plan in the 2017/2018 year (subject to the appeal process) that sets out indicative timing for implementation of these methods.

## **6 Next Steps**

Following resolution of appeals, staff will be preparing an implementation plan that prioritises future workstreams and guidance material for staff and the community on implementation of the new plan. This work has been delayed by the ongoing legal challenges to the proposed Plan.

Current priority topics for guidance material are:

- Mangrove management.
- Mapping and assessment of natural and cultural heritage values, and other areas of significance.
- Aquaculture provisions.
- Coastal discharges and interface with other regulations and controls.

Jo Noble  
**Senior Planner (RIN)**

**for Regional Integrated Planning Manager**

**25 August 2017**

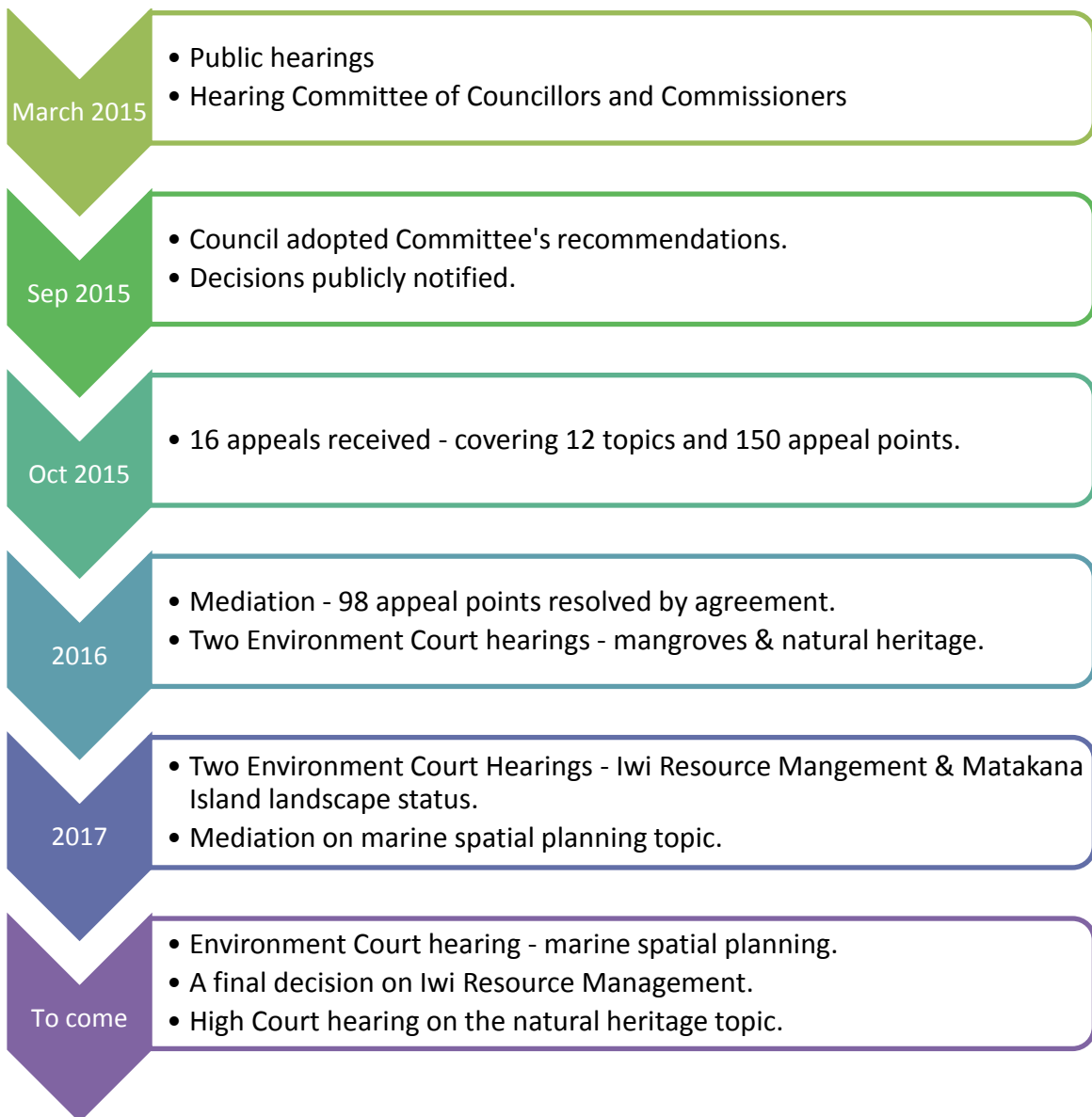




## **APPENDIX 1**

### **Timeline for the Proposed Regional Coastal Environment Plan since notification**









Department of  
Conservation  
*Te Papa Atawhai*

**Report To:** Ōhiwa Harbour Implementation Forum

**Meeting Date:** 12 September 2017

**Report From:** Violet Temo (Community), Paul Hunter (Biodiversity), Tawa Kingi (Biodiversity), Clint Savage (Community), Rhys King-Hazel (Recreation and Historic), Rob Whitbourne (Community)

## Department of Conservation Annual Update 2016 – 2017

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*Mā te mahi ngā tahi ka whai kaha ai tātau, mā te ngunguruō ngā tāonga koi ora me  
ngā tāonga tuku iho ka noho momoho ēnei whenua rāhui whakatiketike*

It is in unity that we acquire strength and as the ecological and cultural heritage values of  
which is in our care flourish, opportunities abound.

The following Annual Update provides an overview of the Department of Conservation's (DOC) operations within the Ōhiwa Harbour catchment from July 2016 to June 2017. The Department's core roles involve the protection of Aotearoa's natural and historic heritage, and supporting New Zealanders and our visitors to experience and enjoy places of natural and historic significance. Although the Department undertakes a large degree of this work itself, in recent years collaboration with iwi, community groups, businesses, volunteers, and various government agencies has grown in importance.

The Ōhiwa Harbour catchment is within the Department's Whakatāne-Whirinaki-Ōpōtiki District. The District team has three main functional groups; recreation and historic, biodiversity and community, with a single operations manager. Through the period of this report John Sutton, Mike Jones and Jade King-Hazel have held this position. Jade King-Hazel has recently (August 2017) been appointed to this role permanently. Department staff who live in the Ōhiwa Harbour area, Mithuna Sothieson, Andy Glasser and Hori Barsdell have been particularly active in supporting community conservation activities around the harbour such as the establishment of the Ōhiwa Headland Sanctuary and the Hurike Care Group. In many respects, they are the Department's 'kanohi kitea', our people on the ground, so particular mention should be made of their work.

### Recreation and Historic Team

The recreation and historic team are responsible for protecting historic sites, structures/visitor assets and artefacts on public conservation land. Work programmes are created which detail annual and longer-term work required to stabilise, repair, or restore historic features. Within the Ōhiwa catchment Tauwhare Pā is the main historic site managed by the Department. The management of this site occurs in partnership with Ngāti Awa through a joint management committee, Te Tapatorua-Toi, which was established through the Ngāti Awa Claims Settlement Act (2005).

### ***Tauwhare Pā***

Work at Tauwhare Pā includes;

- Vegetation management – undertaken to minimize natural process of site degradation and enhance visitor experience. This work is undertaken to strict standards to avoid site damage. Vegetation mangement also includes weed removal, a body of work that is lead by the biodviersity team.
- Visitor information – supplying information about the cultural, historic and ecological values of the site.
- Visitor access – maintaining tracks, public use areas and parking area.

Vegetation management has been performed by contractors, but the Department has recently formed an agreement with Whakatane Corrections to carry out on-going site management work.

In 2013 the carpark and waharoa development was completed at Tauwhare. This was Stage I in a two-stage development plan. Stage II development was approved in July 2017. The focus of Stage II will be the installation of interpretation at the carpark, waharoa and across the Pā site.



As Tauwhare Pā is one of the sites on the Ngā Tapuwae o Tairongo trail, discussion have occured between BOPRC and Department staff to explore options for collaborating in developing interpretation on site that and the Department would like to acknowledge and thank Bay of Plenty Regional council staff and the members of OHIF and OHSCG. It is planned that the Department, Te Tapatoru-a-Toi and OHIF and OHSCG collaborate in the development of interpretation at Tauwhare Pā.

### **Biodiversity Team**

The focus of the biodiversity team is protecting and enhancing natural ecosystems and indigenous species. Within the Ōhiwa harbour catchment much of this work involves collaboration with District and regional councils, community groups and iwi.

#### ***Tauwhare Pā***

Weed control work is focused on the peak growing season, from Spring to Autumn, with winter being a quieter period. Wattle and ginger control are a focus of work at Tauwhare Pā. The 2017-18 weed control program will commence in Spring.

#### ***Inanga - Whitebait***

Whitebait advocacy is an important part of DOC's role in managing native freshwater fisheries. The white bait season is open between 15<sup>th</sup> August and 30 November (inclusive). Fishing is only permitted between 5:00am and 8:00pm or between 6:00am and 9:00pm when New Zealand Daylight Saving is being observed.



DOC staff undertake compliance work, both responding to calls from the public and through planned site visits to popular whitebait spots. This work involves an educational element, ensuring whitebaiters understand the regulations, and enforcement of those regulations.

### ***Patu Otaota - Weed Control***

Weed control is undertaken on some of the Ōhiwa harbour islands such as Uretara and Whangakopikopiko and as noted above, at Tauwhare Pā.



### ***Tiaki Manu - Bird Protection***

#### Shorebirds

Work continues on shorebird habitat protection and predator control. This involves signage-education, fencing of nesting areas, dune protection, predator trapping and bait stations. Along with human and predator threats, shorebirds are also susceptible to natural events, particularly during nesting and fledging periods. The 'super moon' in November 2016 caused extremely high-tides which in some cases destroyed nests. Many birds established second nests and went on to successfully raise chicks.

#### Matuku - Bittern

New Zealand's matuku (Australasian bittern) has a conservation status of nationally critical as there is less than 1000 birds in Aotearoa. A matuku was picked up from Wainui rd. after being hit by a vehicle. After rehabilitation was fitted with a transmitter and released on to Ōhiwa Harbour. Unfortunately, the bird was later found dead, with starvation being the most likely cause of death. A bittern survey was carried out late 2016-early 2017 and five male bitterns were identified at different sites. Work with matuku expert Emma Williams will continue to ensure protection of the bird.

#### Kiwi

Across the broader Ōhiwa catchment area there are a range of kiwi protection initiatives. It was heartening that North Island Brown Kiwi were found at Pukerūrū, and to see the response of the local care group who extended trapping and bait stations, and promotion of kiwi aversion training for dogs. Department staff will continue to support the various care groups working in areas of kiwi habitat.

### ***Te Patu Rāpeti & Weka - Rabbit Control & Weka***

Rabbit control was undertaken in mid-2016 and mid-2017 over Ōhope, Ōhiwa and Waioatahe spits. These operations used the toxin pindone. Monitoring of weka was undertaken as part of both operations to assess possible effects from the toxin. Weka were trapped and fitted with transmitters prior to both operations, and caught post operation to assess possible effects. Weka were found to be healthy after the mid-2016 operation and assessment of weka after the mid-2017 operation is to occur in late August 2017.



## **Community Team**

### ***Wānanga Patu Kīrearea - Pest trapping workshop***

Mithuna Sothieson, Andrew Glaser and Hori Barsdell have been advocates for community initiatives to establish pest control projects around the harbour, and each has undertaken considerable work

with the communities of Ōhiwa. An indicator of the strength of this work was the workshop held by Mithuna and Andy in July 2017. The workshop provided information and guidance to community groups and iwi, including representatives from Ōmaramutu, Ngāti Rua (Whakatōhea), and Te Upokorehe. Information about the ecological values and threats of the harbour area, and control techniques for various animal pests (i.e. stoats, rats, possums) was presented. There was a great turnout indicating the level of enthusiasm and commitment of community members to protecting the harbour and its landscapes.

## Ngā Waitohu - Signage and Interpretation

### Ngā Tapuwae o Tairongo

Community team staff are collaborating with Tanja Rother and the design team to provide bilingual content for signage and interpretation.

#### Signage general

Staff continue to work with BOPRC, District councils and other govt. agencies on rationalizing signage around the harbour to provide clearer and more consistent messaging to the public. Members of the biodiversity team have also been involved in this work.

### Tauwhare Pā

#### Conservation Week 2016 – Te Reo Geocache Challenge

Conservation Week is an annual event where the Department undertakes to promote the benefits of conservation and encourage people to get out and experience nature. For Conservation Week 2016 a Te Reo Māori Geocaching challenge was undertaken. The event involved hiding caches (small containers) with whakataukī (traditional Māori sayings) in them at significant sites. Participants were supplied with GPS co-ordinates, which they entered into Google Maps, and then started the search for the caches. Once the caches were found, the participants then had to translate and interpret the whakataukī by posting to a Facebook page. The whakataukī for Tauwhare Pā were;

- Te Kete Kai o Tairongo – the food basket of Tairongo
- Te Kopu o te Ururoa – the birthplace of the shark

By finding the te reo caches and providing translations and interpretations of these two whakataukī participants both experienced Tauwhare Pā and learnt of its significance to iwi. Overall the event was a success and will be repeated for Conservation Week 2017 (14-22 October).

#### Stage II Development

As noted previously the Stage II Tauwhare Pā development (\$25,000) was approved. The Department looks forward to collaborating with OHIF, OHSCG and the BOPRC to integrate this project and the Ngā Tapuwae o Tairongo trail.

### He Mahi Tū Atu - Other Work

Preliminary discussion regarding the Port Ōhope Reserve management plan has occurred with WDC and Te Runanga o Ngāti Awa staff. Department staff continue to engage with iwi re concession & permit applications on reserves within the catchment, and generally provide iwi support for conservation/kaitiaki work e.g. supporting groups to attend rongoā/forest ecology wānanga.





## **Mahi Ohotata - Emergency Responses**

The Department undertakes two main types of emergency response within the area; i) fire response and control on DOC managed reserves, and ii) whale stranding response.

### ***Patu Ahi - Fire Response***

Responding to fires on public conservation land and within a 1km radius has been a role of the Department. With the establishment of Fire and Emergency New Zealand (FENZ) from 1 July 2017 there have been changes in fire and emergency responsibilities and response coordination. In terms of fire on or adjacent to public conservation land, the Department will continue to act as a first responder along with other emergency services.

### ***Mahi Tohorā - Whale Stranding***

Depending on the numbers of whales involved and the scale of the stranding, this work can vary considerably. The knowledge and practices associated with whale strandings are clearly significant to tangata whenua. The Department therefore supports iwi and hapū to maintain the cultural practices associated with strandings, while integrating scientific understandings, and working in accordance with the relevant legal requirements and international agreements. Whale strandings are events of significance to the broader community, and the scientific community both nationally and internationally, meaning these events can involve diverse groups with varied interests.

### **Recommendation:**

1. That the Ōhiwa Harbour Implementation Forum receives the Department of Conservation annual update 2016-2017.





## **Report to Ōhiwa Harbour Implementation Forum**

**Meeting date - 12 Sept 2017**

**Report from the Rotary Club of Whakatane**

### **Update on Proposed Ohope Harbour Side Trail**

#### **Executive summary**

A vision was conceived to create a trail alongside the northern edge of the Ohiwa harbour of a walking and cycling trail that would be constructed within the Whakatane District Council (WDC) reserve areas that border the harbour.

The objectives of the Trail were to provide the public the opportunity to appreciate the visual tidal moods, plant and wildlife that Ohiwa Harbour offers and also to promote activities that are highlighted as important within the Ohiwa Harbour Strategy document.

The Rotary Club started a process of consultation with interested and affected parties that culminated with the receipt of two consents dated the 14th November 2016. These two consents allow the existence of the trail and the activities required for its construction.

A detailed design and costing of the Trail has been undertaken to enable tenders to be called for its construction. This information has been used in the application for funding to various organisations.

It is hoped that following successful funding that the Trail will start construction in November.

The support and endorsement of the Trail by the Ohiwa Implementation Forum is now requested.

#### **Recommendation**

That the Ōhiwa Harbour Implementation Forum under its delegated authority, receives the report titled an Update on the Ohope Harbour Side Trail and provides its support and endorsement for the proposal.

#### **Background**

Some years ago, a member of the Rotary Club of Whakatane, Hugh Lovelock, had a vision to create a trail alongside the northern edge of the Ohiwa harbour. The original concept was a board walk that would be constructed within the harbour environment. This was not appropriate and the concept was then modified to that of a walking and cycling trail that would be constructed within the Whakatane District Council (WDC) reserve areas that border the harbour. These reserve areas were set aside specifically for the purposes of public access and recreation and contain within their mandate the activities that were planned.

The objectives of the Trail were to provide the public the opportunity to appreciate the visual tidal moods,

plant and wildlife that Ohiwa Harbour offers, to encourage healthy activity for walkers / bikers / wheelchairs and create contemplation sites for mental rest and to link and enhance the walkway as a useful public amenity. To create an outdoor classroom for school students for nature study and environmental consciousness and harbour edge enhancement. Many of these activities are those highlighted as important within the Ohiwa Harbour Strategy document.

The Rotary Club started a process of consultation with interested and affected parties and part of this process was the two previous presentations that have been made to the Harbour Implementation Forum. In May 2013, the Forum resolved to support and endorse the proposal in principle. In November 2015, the Forum noted that Rotary would consult further with the community, including iwi. Further consultation has since been carried out. The consultation undertaken included:

- Mail box drops of information to all neighboring properties
- An information stand at the Ohope craft market on a number of Saturdays.
- Response on a personal basis to all parties who wished to be engaged or had questions related to the impact or objectives of the Trail
- Advertised 'open days' on site where the Trail was explained to interested parties and a walk through was undertaken
- A site meeting was undertaken with representatives of Te Upokorehe, Whakatohea, and Waimana Kaoku who voiced their approval on the basis that an archeological report be undertaken. (this was subsequently produced by Lynda Walter of InSitu Heritage Ltd.)

Wildlands were engaged to undertake a detailed environment impact assessment of the Trail, and this information has proved invaluable in the route selection process. Iwi and neighbourhood consultation was also undertaken to ensure all affected parties understood the details of the concept proposed.

A close relationship was established with the WDC, and with their assistance a resource consent process was activated that culminated in the receipt of two consents dated the 14th November 2016. These two consents allow the existence of the trail and the activities required for its construction. The consents were required for parts of the Trail due to the existence of areas of significant biodiversity along the route. It was decided to however treat the full Trail in the same manner.

Following the receipt of the consents, Frame Group Ltd were engaged to undertake a detailed design and costing of the Trail. The design of the Trail has been undertaken to meet disability access requirements by ensuring that slope gradients are appropriate. This design information enabled the calling of tenders for the construction. This process is being managed on Rotary's behalf by the WDC who will eventually own and maintain the Trail. Four compliant tenders were received and this information has been used for applications made to various funding organisations.

The total costs for the construction of the Trail only is expected to be in the order of \$250,000. Additional funds will be required for signage and rest and interpretation areas.

It is hoped that the Implementation Forum may be able to assist us in the allocation of funds and/or resources for some of the rest and interpretation areas and in an ongoing manner, were the Rotary Club will undertake and coordinate interested individuals, to start an environmental enhancement programme for the

harbour edge. This is envisaged to include pest and weed control and a planting program to create improved fauna and flora.

It is hoped that following successful funding that the Trail will start construction by the 1st November 2017 and be completed ready for the coming summer season.

**Don Lewell, Coordinator, Ohope harbour side Trail Committee.**

**21 August 2017**

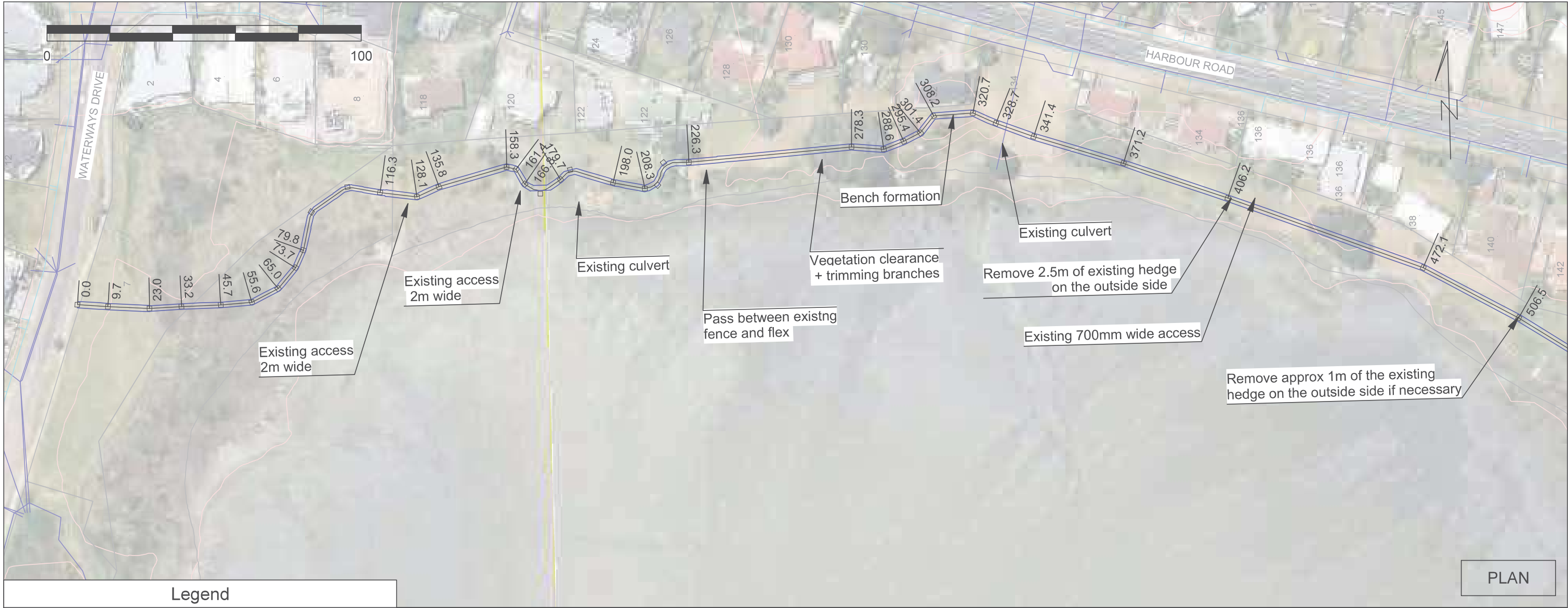


**Whakatane District Council- Ohope Harbourside Trail  
Required Work Schedule - May 2017**

Segment	Start [m]	End [m]	Segment Length [m]	Existing width [m]	Avg Grade [%]	Description	New effective width [m]	Form new track on flat formation [m]	Form filled track 200-500 mm height [m]	Form new track on bench formation [m]	Aggregate surfacing 50mm thick [cub m]	Install Low Boardwalk [m]	Concrete path [m]	Culverts 250-300mm diam	Fill clean material [cub m]	Miscellaneous, culverts, rockarmouring, vegetation removal, water run off etc.
1	0	23	23	-	0	Re-form new 1.6m wide track on grass area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	23			2.4					
2	23	118	95	-	10	Form new 1.6m wide filled track 200-500mm high as per drawing 17/015/07 on swamp area. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6		95		9.9			4	59.3	Add fill where necessary Private access at 133m and 170m Provide smooth transition with contiguous segments
2	118	308	190	2	10	Re-form new 1.6m track on grass area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	190			19.8			6		Private access at 133m and 170m. Trim vegetation where required.
3	308	320	12	1.4	-5	Re-form new 1.6m bench track as per drawing 17/015/07 opposite to 132 Harbour Rd. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6			12	1.2				3.7	Add fill where necessary
4	320	603	283	2	0	Re-form new 1.6m track on grass area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	283			29.4			3		
5	603	630	27	2	0	Install new 1.6m wide low boardwalk as per drawing 17/015/08	1.6					27				
6	630	800	170	-	0	Re-form new 1.6m track on grass area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	170			17.7			1		Add fill where necessary
7	800	1140	340	1.2	0	Re-form new 1.6m track as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	340			35.4			2		
8	1140	1302	162	-	0	Form new 1.6m wide filled track 200-500mm high as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6		162		16.8			4	101.1	Add fill where necessary Private access at 924m Install 450mm diam culvert 3m long at approx 990m (see location plan) Provide smooth transition with contiguous segments
10	1302	1305	3	2.5	0	Re-form new 1.6m track on grass area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	3			0.3					
11	1305	1419	114	-	0	Form new 1.6m wide filled track 200-500mm high as per plan drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6		114		11.9			3	71.1	Add fill where necessary. Trim vegetation where required. Provide smooth transition with previous segment
13	1419	1421	2	-	0	Existing 1.2m wide and 600mm high boardwalk access. Form new 1.6m wide filled track 200-500mm high as per plan drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6		2						0.8	Remove and dispose 2.5m of existing 1.2m boardwalk from the private access to the reserve land. Provide transition with filled track. Add fill where necessary
14	1421	1463	42	-	0	Form new 1.6m wide filled track 200-500mm high as per plan drawing 17/015/07 on swamp area. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6		42		4.4			2	17.5	Add fill where necessary Trim vegetation where required.



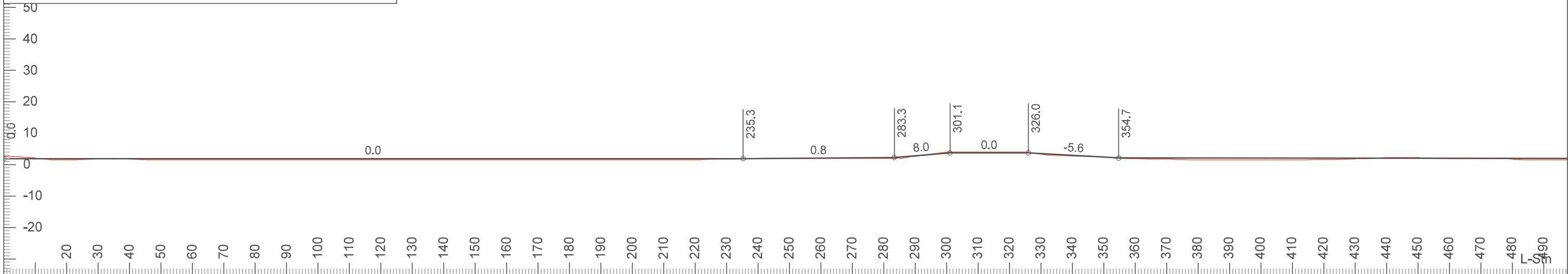
Whakatane District Council- Ohope Harbourside Trail Required Work Schedule - May 2017																
Segment	Start [m]	End [m]	Segment Length [m]	Existing width [m]	Avg Grade [%]	Description	New effective width [m]	Form new track on flat formation [m]	Form filled track 200-500 mm height [m]	Form new track on bench formation [m]	Aggregate surfacing 50mm thick [cub m]	Install Low Boadwalk [m]	Concrete path [m]	Culverts 250-300mm diam	Fill clean material [cub m]	Miscellaneous, culverts, rockarmouring, vegetation removal, water run off etc.
15	1463	1483	20	2	0	Install new 1.6m wide low boardwalk as per drawing 17/015/08.	1.6					20				
16	1483	1500	17	-	0	Form new 1.6m wide filled track 200-500mm high as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6		17		1.8			1	7.1	Add fill where necessary Trim vegetation where required. Provide smooth transition with contiguous segments
17	1500	1543	43	2.5	0	Re-form new 1.6m track on grass area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	43			4.5					
18	1543	1665	122	1	0	Re-form new 1.6m track on forest area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	122			12.7					
19	1665	1756	91	-	0	Form new 1.6m wide filled track 200-500mm high as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing. End at path beside the road.	1.6		91		9.5			3	56.8	Add fill where necessary Trim vegetation where required. Provide smooth transition with contiguous segments
20	1756	2165	409	2	0	Re-form new 1.6m track on grass area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	409								
21	2165	2600	435	-	8	Re-form new 1.6m track on grass area as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6	435			45.2					
22	2600	2627	27	-	0	Install 1.6m wide and 100mm thick concrete surface adjacent to car park as per plan drawings 17/015/07.	1.6						27			
23	2627	2797	170	-	±6	Form new 1.6m wide filled track 200-500mm high as per drawing 17/015/07 on swamp area. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing. Trim vegetation where required.	1.6	170			17.7					
24	2797	2810	13	-	0	Install new 1.6m wide low boardwalk as per drawing 17/015/08	1.6					13				
25	2810	2816	6	-	±10	Form new 1.6m wide filled track 200-500mm high as per drawing 17/015/07 on swamp area. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing.	1.6		6		0.6			1	3.7	Add fill where necessary Trim vegetation where required.
26	2816	2934	118	2	-8	Re-form new 1.6m bench track as per drawing 17/015/07. Provide 1.6m wide x 50mm compacted depth of GAP20 aggregate surfacing. Install lookout point between 2825-2835m as shown on location plan 17/015/06.	1.6			118	12.3			4	36.8	Possible lookout location. Add fill where necessary
<b>TOTAL</b>			<b>2934</b>					<b>2188</b>	<b>529</b>	<b>130</b>	<b>253.3</b>	<b>60</b>	<b>27</b>	<b>34</b>	<b>358.0</b>	



PLAN

Legend	
	Plan - Walkway design centreline points
	Plan - Walkway edges
	Profile - Walkway surface level & grade
	Profile - Topopgraphy

PROFILE



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PREPARED FOR



PROJECT

OHOPe HARBOUR TRAIL

TITLE

LOCATION PLAN

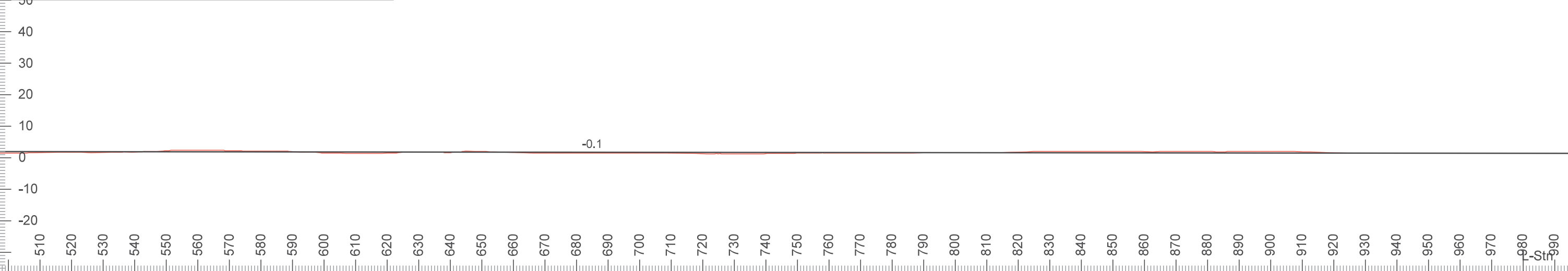
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DRAWN	RM	FGL JOB	17/015
APPROVED		DRAWING	P01



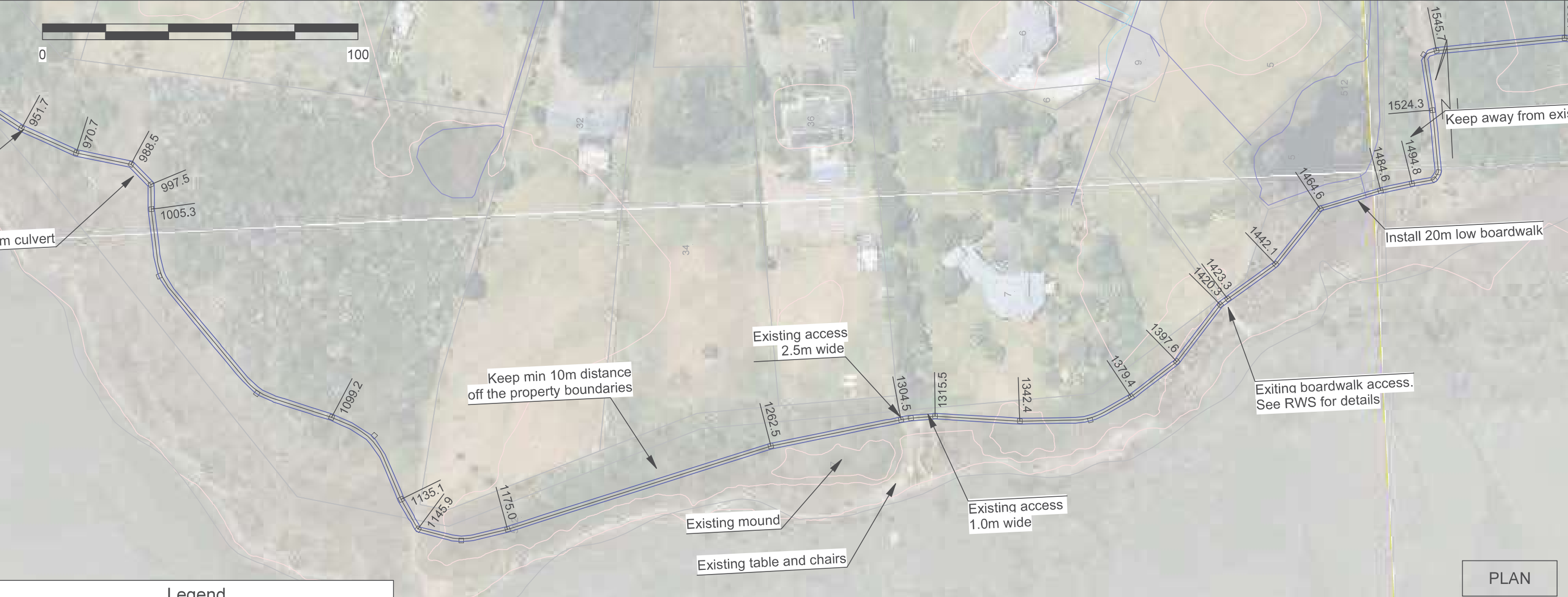
PLAN

Legend	
	Plan - Walkway design centreline points
	Plan - Walkway edges
	Profile - Walkway surface level & grade
	Profile - Topography

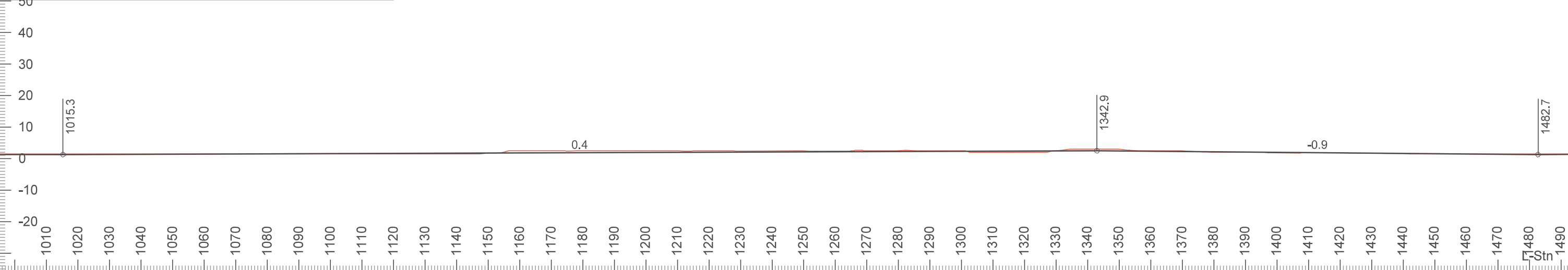
PROFILE











Legend	
	Plan - Walkway design centreline points
	Plan - Walkway edges
	Profile - Walkway surface level & grade
	Profile - Topography



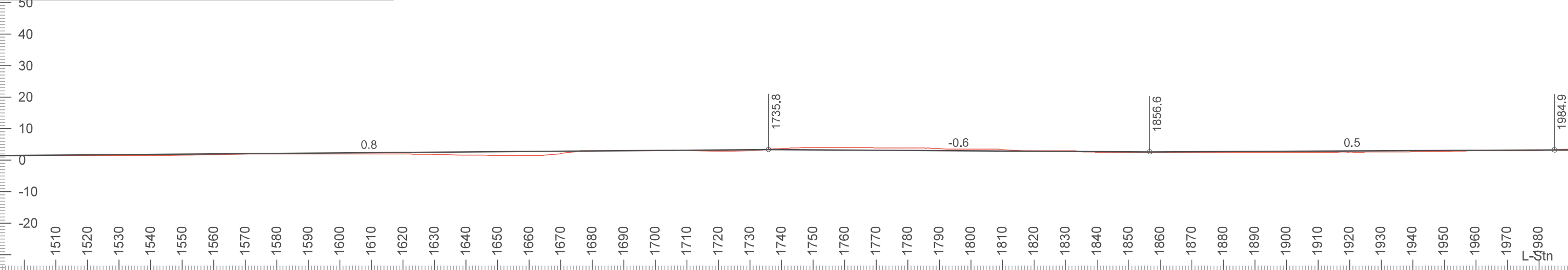
 <b>Frame Group Limited</b> PO BOX 147211, PONSONBY, AUCKLAND 1144 LEVEL 2, 16 COLLEGE HILL, AUCKLAND, NZ PHONE: 64 9 638 7221 FAX: 64 9 376 0513 © FRAME GROUP LTD, 2017	PREPARED FOR 	PROJECT <b>OHOPE HARBOUR TRAIL</b>	TITLE <b>LOCATION PLAN</b>	SCALE Plan Scale 1:1250 Profile Vert Scale 1:1250 Profile Horz Scale 1:1250	Date: <b>MAY 2017</b>
				DRAWN <b>RM</b>	FGL JOB <b>17/015</b>
				APPROVED	DRAWING <b>P03</b>



PLAN





Legend	
	Plan - Walkway design centreline points
	Plan - Walkway edges
	Profile - Walkway surface level & grade
	Profile - Topography

PROFILE

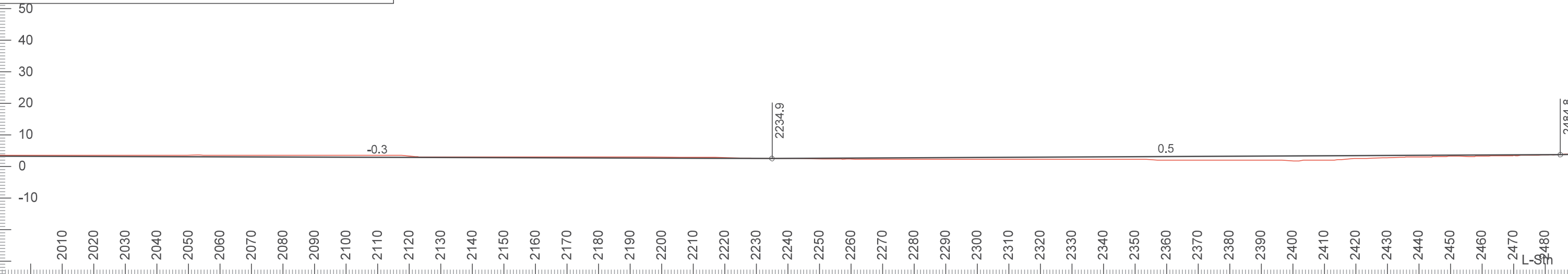




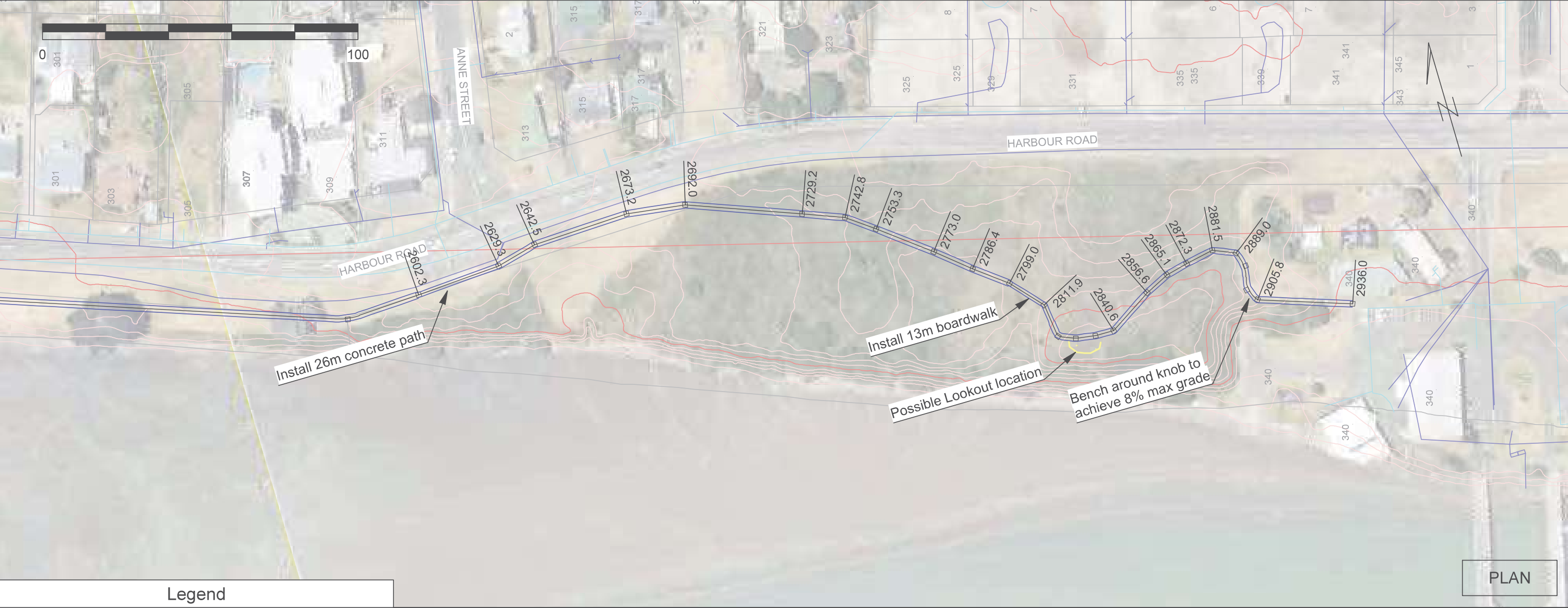
PLAN

Legend	
	Plan - Walkway design centreline points
	Plan - Walkway edges
	Profile - Walkway surface level & grade
	Profile - Topography

PROFILE

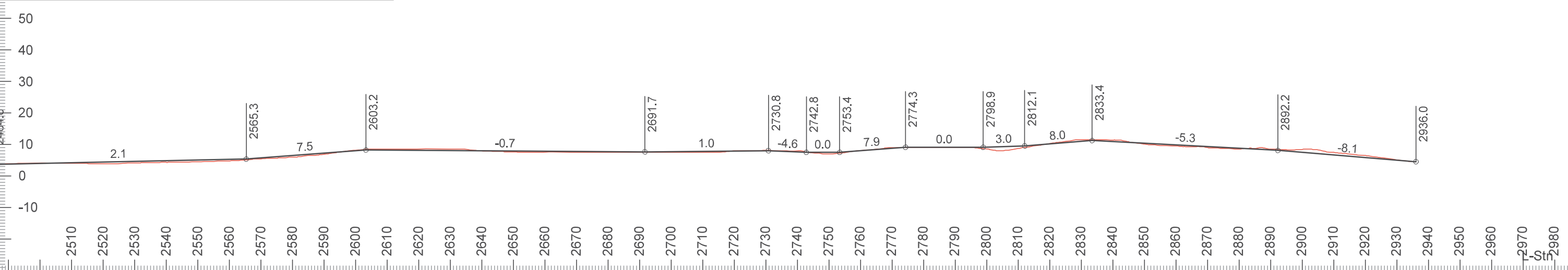






Legend	
	Plan - Walkway design centreline points
	Plan - Walkway edges
	Profile - Walkway surface level & grade
	Profile - Topography

PROFILE



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				DRAWN <b>RM</b>	FGL JOB <b>17/015</b>
				APPROVED	DRAWING <b>P06</b>

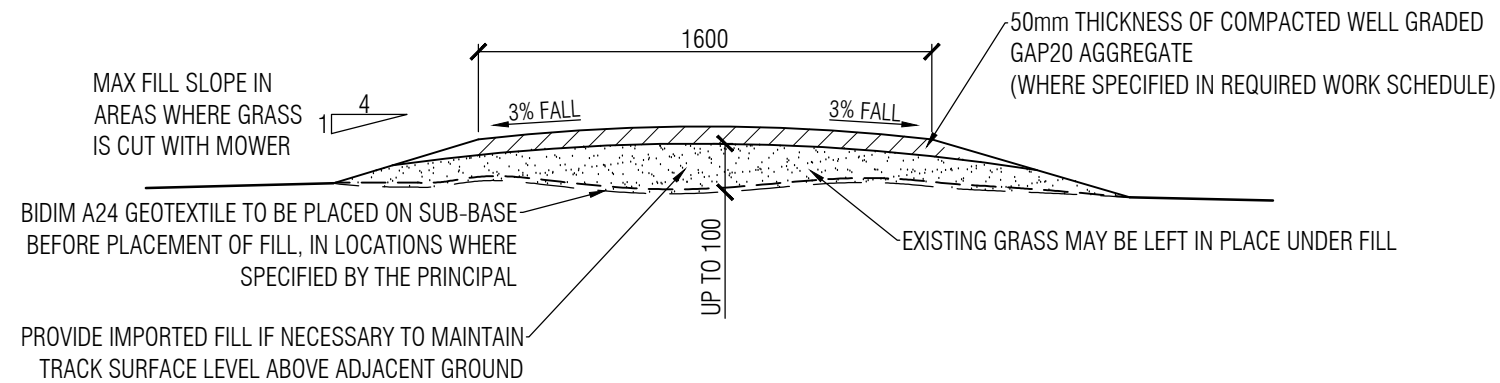
Rev	Date	Amendment

01

## TYPICAL RESHAPE FORMATION

SHT -

1:20 @ A3

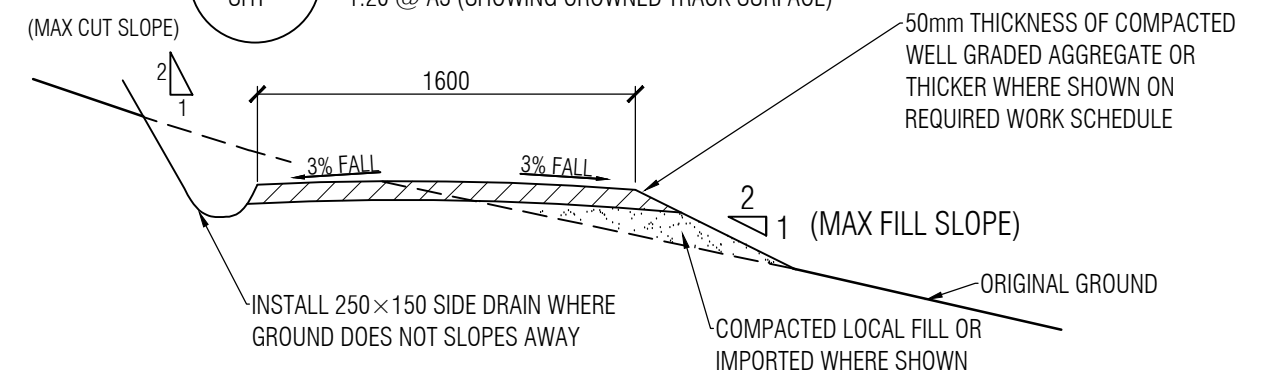


03

## TYPICAL CUT/FILL FORMATION

SHT -

1:20 @ A3 (SHOWING CROWNED TRACK SURFACE)

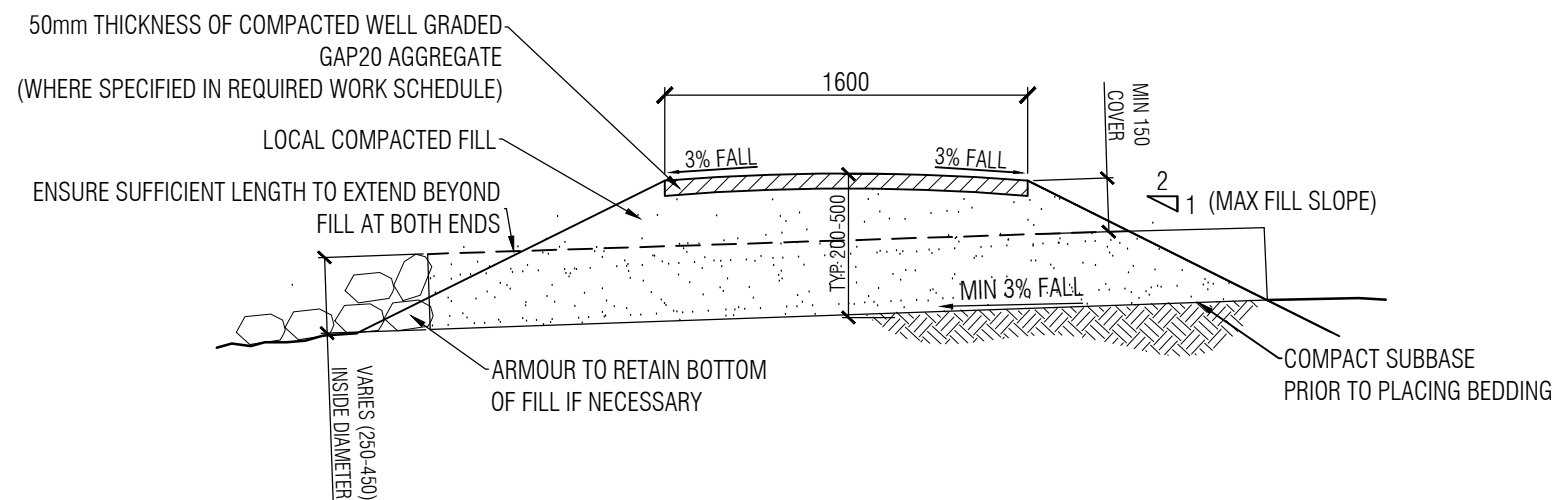


02

## TYPICAL FILL FORMATION DETAIL WITH CULVERT

SHT -

1:25 @ A3

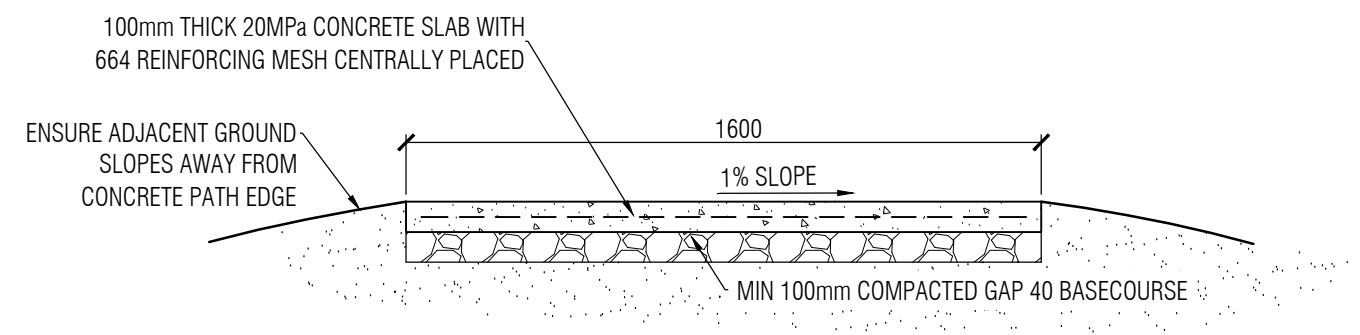


04

## TYPICAL CONCRETE FORMATION

SHT -

1:25 @ A3



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PROJECT

OHOPE HARBOUR TRAIN

Page 155 of 158

TITLE

TRACK  
CONSTRUCTION DETAILS

SCALE

AS SHOWN

DATE

MAY 2017

DRAWN

RM

DESIGNED

AM

FGL JOB

17/015

APPROVED

DRAWING

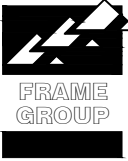
07

REV



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DO NOT SCALE



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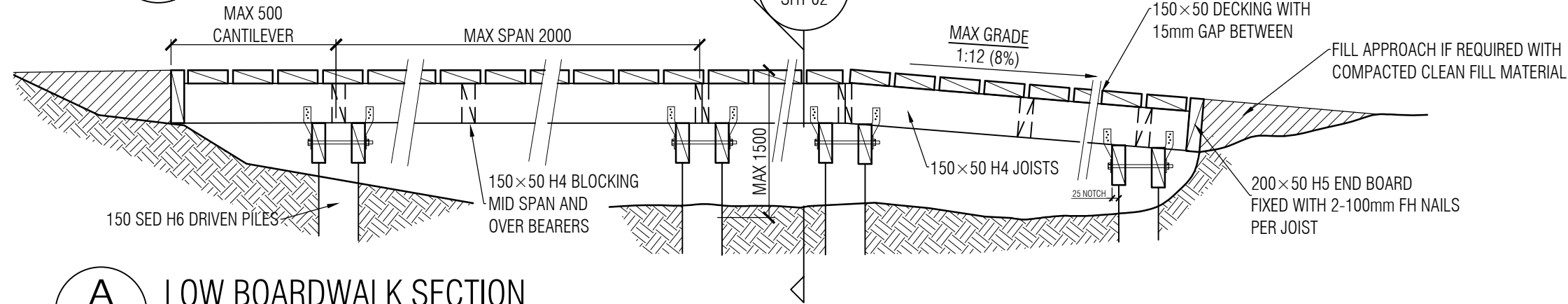


Rev	Date	Amendment

05

LOW BOARDWALK ELEVATION

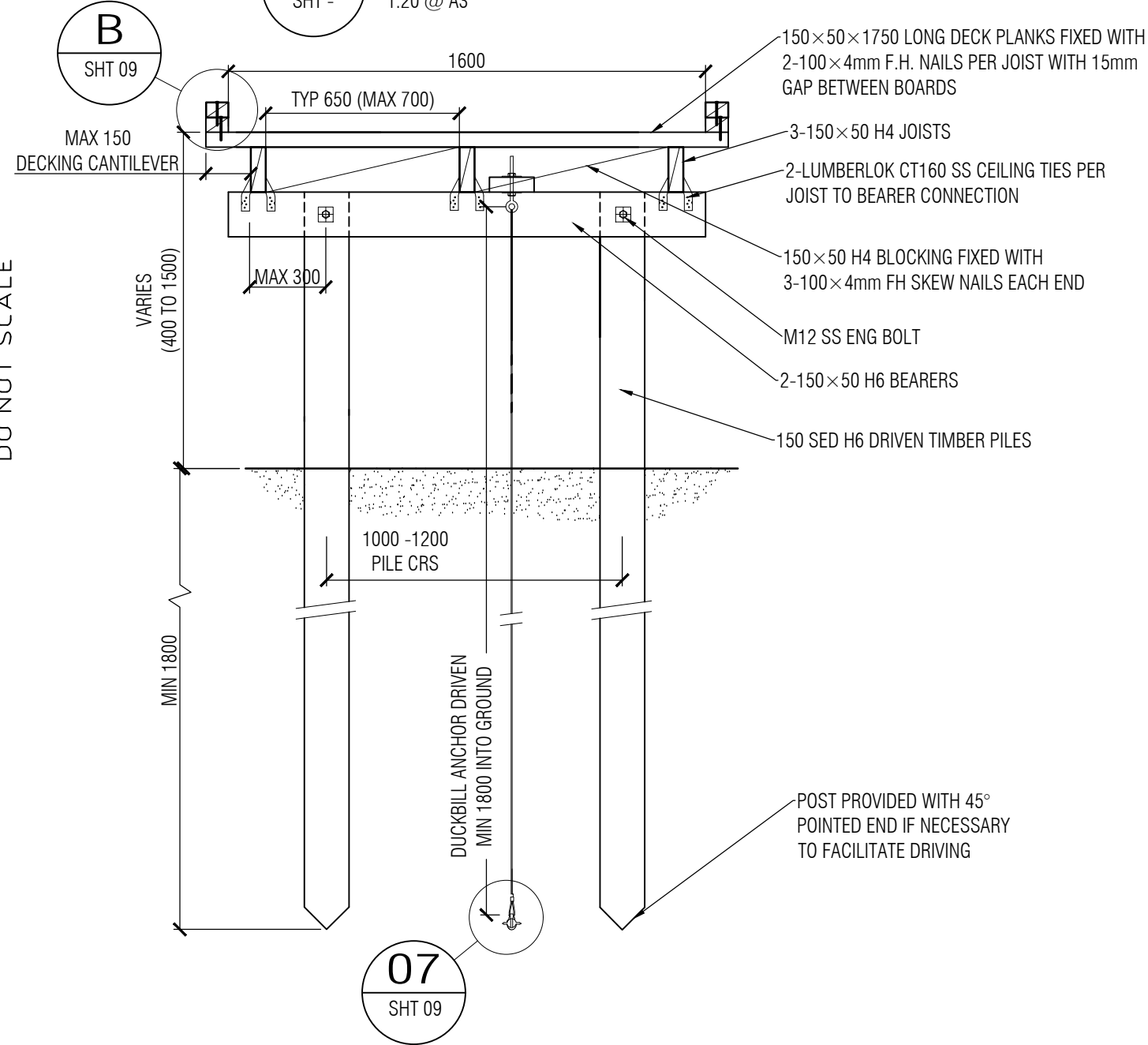
SHT - 1:20 @ A3



A

LOW BOARDWALK SECTION

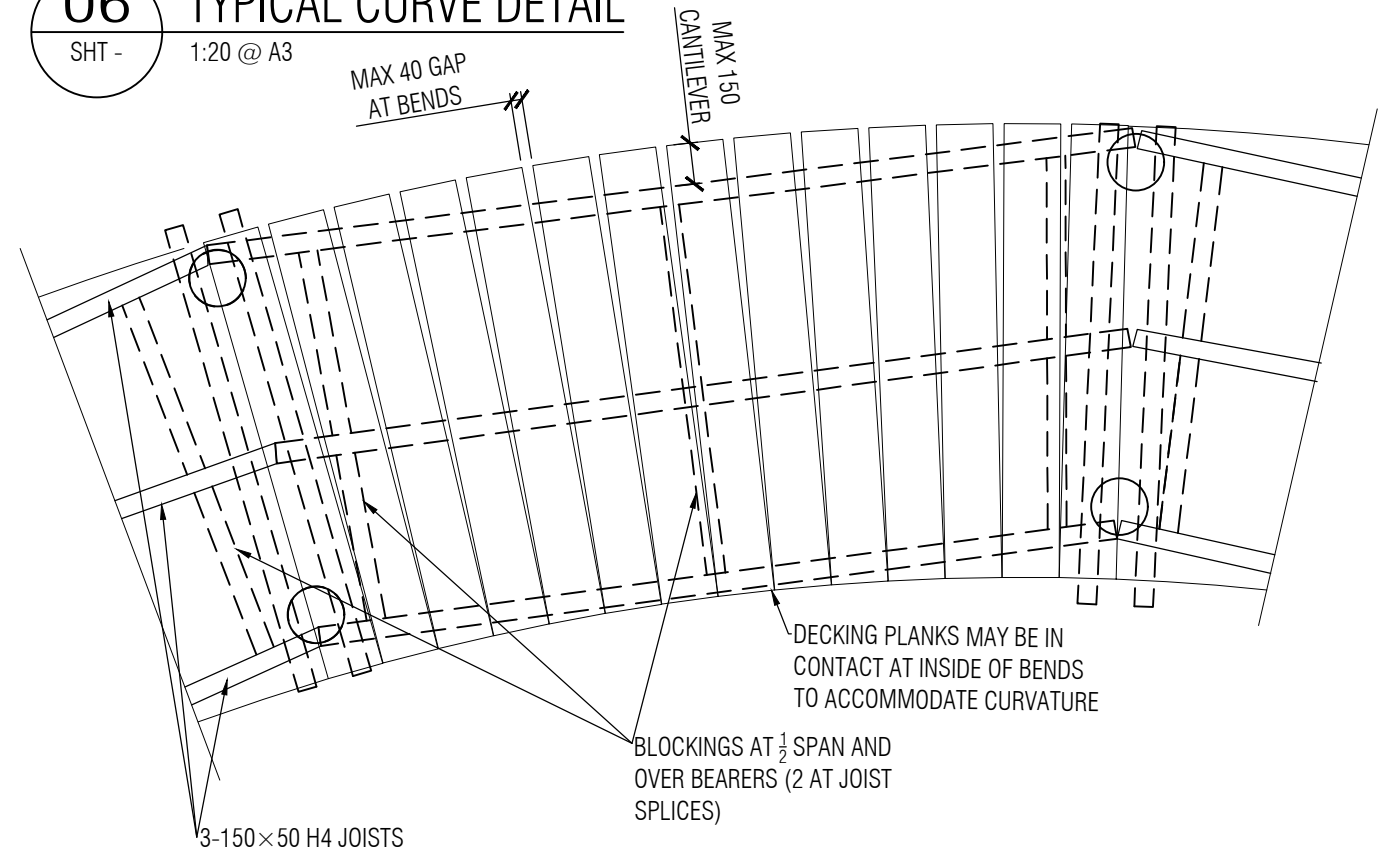
SHT - 1:20 @ A3



06

TYPICAL CURVE DETAIL

SHT - 1:20 @ A3



THIS STRUCTURE IS DESIGNED IN ACCORDANCE WITH SNZ HB 8630:2004 "TRACKS AND OUTDOOR VISITOR STRUCTURES"	
DESIGN DETAILS	
SITE USER GROUP	SST
DECK DESIGN LOAD	3.2 kPa
EFFECTIVE FALL HEIGHT	<1.5m
FALL SURFACE	FAV

SCALE AS SHOWN		DATE MAY 2017	
DRAWN RM	DESIGNED AM	FGL JOB 17/015	
APPROVED		DRAWING 08	REV

DO NOT SCALE

DO NOT SCALE

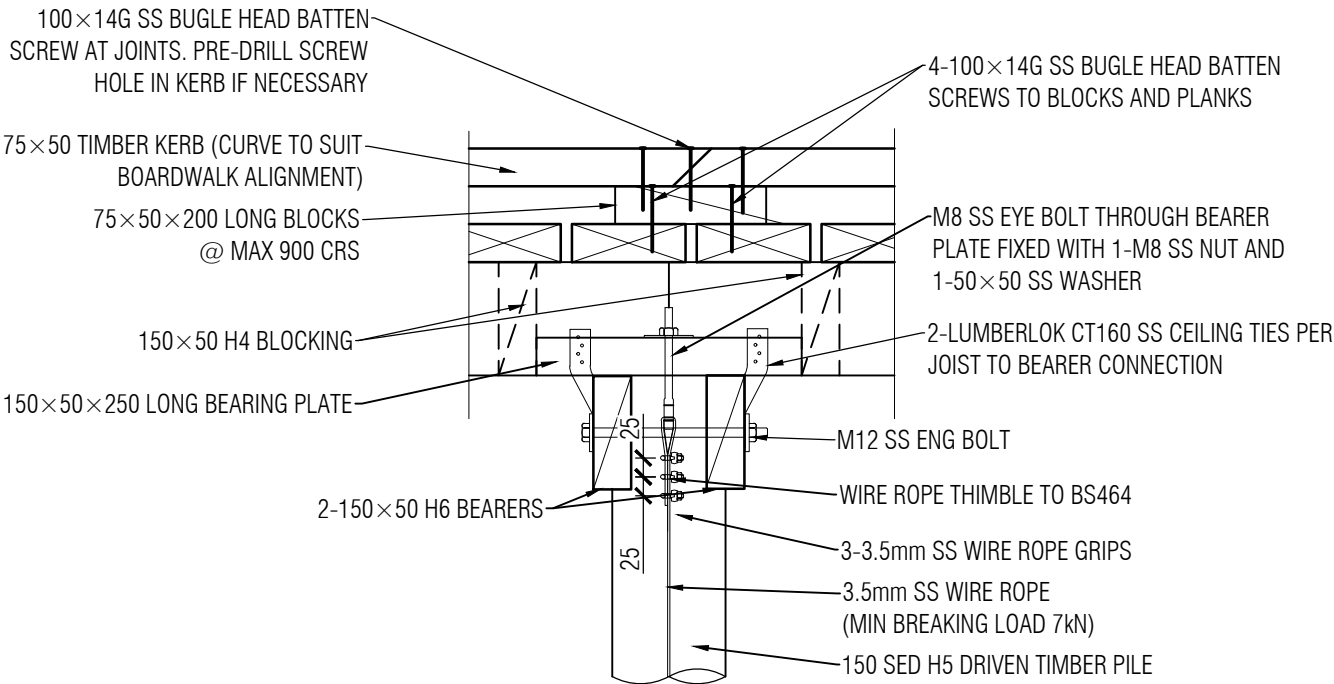
Rev	Date	Amendment

B

TYPICAL BOARDWALK PILE CONNECTION

SHT -

1:10 @ A3

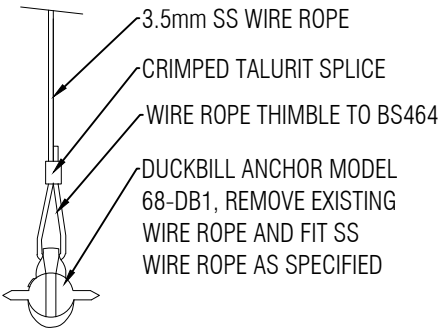


7

DUCKBILL DETAIL

SHT -

1:10 @ A3



NOTE:  
DUCKBILL ANCHORS TO BE  
INSTALLED AS PER MANUFACTURERS  
SPECIFICATION AND PULLED TIGHT  
AFTER INSTALLATION TO 'SET' THE  
ANCHOR TO RESIST UPWARD LOAD.



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PROJECT

OHOPE HARBOUR TRAIL

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TITLE

BOARDWALK  
CONSTRUCTION DETAILS

SCALE

AS SHOWN

DATE

MAY 2017

DRAWN

RM

DESIGNED

AM

FGL JOB

17/015

APPROVED

DRAWING

09

REV

