



Photo: Phil Battley, Massey University

# LIVING WATER



WORKING TOGETHER TO CARE  
FOR FIVE KEY CATCHMENTS

## Tīkapa Moana/Firth of Thames PŪKOROKORO/MIRANDA CATCHMENT STRATEGIC PLAN

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July 2015 – June 2018  
**Summary**

## INTRODUCTION

The Living Water vision is that a sustainable dairy industry is part of healthy, functioning ecosystems that together enrich the lives of all New Zealanders.

### This summary of the strategic plan 2015/18:

- Outlines the site vision, our approach, goals and how we will work with others;
- Highlights some of the special values and catchment issues at the site;
- Details the key site activities and projected investment to 2018.

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We welcome feedback on this document and will adapt our projects within this strategy to meet community interests.



Living Water is a joint partnership between the Department of Conservation (DOC) and Fonterra working with local communities, dairy farmers, iwi/hapū and other stakeholders to improve sensitive water catchments.

The Pūkorokoro/Miranda catchment is one of the five programme sites across New Zealand. The other sites are in the Kaipara Harbour (Hikurangi catchment), Waikato peat Lakes (Areare, Ruatuna, and Rotomānuka), Te Waihora/Lake Ellesmere (Ararira/LII catchment) and Awarua – Waituna (Waituna catchment).

## SITE THEME

Shorebird habitat, international flyways and farming on the coast .





## OUR GOALS

- Support thriving and diverse shorebird habitats at Pūkoro/Miranda.
- Living Water contributes to the protection of the East Asian Australasian International Flyway network sites.
- The catchment showcases examples of best practice sustainable dairy farming alongside thriving on-farm biodiversity.
- Pūkoro/Miranda is valued as a nature 'hot spot' in the hearts and minds of New Zealanders.
- The cultural and natural history of the site is brought to life.
- Key stakeholders are enabled and empowered to meet their aspirations where they align with Living Water objectives.



## OUR FOCUS FOR 2015/18

The Living Water programme in the Pūkoro/Miranda catchment will focus on the following key areas:

- Protecting, enhancing and expanding shorebird habitat, including high tide roosting habitat and salt marsh, and managing weeds and predators.
- Supporting advocacy to protect international flyway sites.
- Showcasing examples of best practice sustainable dairy farming.



## KEY PERFORMANCE AREAS

- Achieve biodiversity and water quality improvement
- Develop environmental sustainability on-farm
- Work in partnership with iwi, hapū and whānau
- Work in partnership with stakeholders, landholders and community
- Share our story

## ECOLOGICAL AND CULTURAL VALUES

The Pūkorokoro/Miranda Catchment is part of the Tikapa Moana/ Firth of Thames Ramsar Convention site, an 8,500 hectare wetland of international importance.

The site supports nine key shorebird species, providing important high tide roosts, as well as a range of rare and threatened plant and animal species. Significant habitat includes the floodplain, saline wetlands, the

intertidal zone, and an active Chenier plain (a series of shell banks) for which this site is one of the world's finest examples.

The coastal strip, east of the main road, from the Pūkorokoro and Miranda Streams mouth to Kaiaua settlement has the highest biodiversity values in the catchment and the highest potential for biodiversity enhancement.



## KEY SPECIES

- New Zealand Dotterel
- Chenier Plain
- Godwit
- Salt Marsh Plants



Photo: Keith Woodley



Photo: Keith Woodley



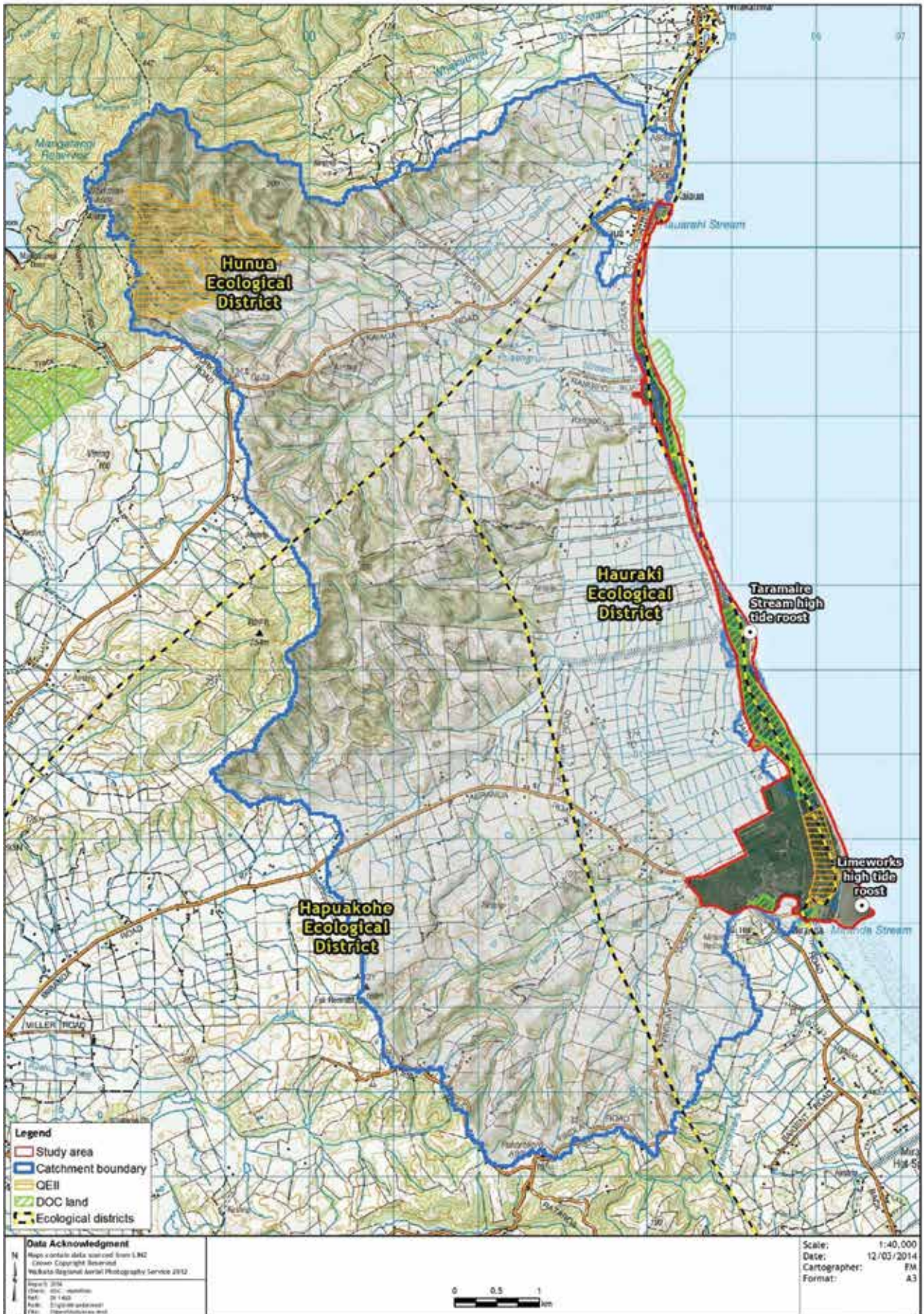
Photo: Keith Woodley

## OUR PARTNERS

- Fonterra farmers: There are ten Fonterra farmers in the catchment, with six of these being adjacent to the shorebird habitat area.
- Ngāti Pāoa: Ngāti Pāoa has mana whenua over the area and is involved with international shorebird advocacy and supports various other conservation projects.
- Pūkorokoro Miranda Naturalists' Trust (PMNT): PMNT is involved with international shorebird advocacy, predator control for shorebird protection, providing public facilities and educational opportunities.
- Hauraki District Council, Waikato District Council, Waikato Regional Council, Auckland Council: Shared interest in catchment protection initiatives, regulatory processes and providing recreational opportunities.
- ECOQuest: Local NGO that provides volunteer and field studies capability.
- Sea Change – Tai Timu Tai Pari: Working on a marine spatial plan for the Firth of Thames.
- QEII National Trust: Provides permanent legal protection for special places on private land.



Pūkoro/Miranda catchment – focus of activity along coastal area.





## ECOSYSTEM ENHANCEMENT

ESTIMATED INVESTMENT 2015/18 **\$345K**

Shorebird habitat along the entire Firth of Thames coast has been reduced significantly in area and condition since human settlement.

The programme activities are designed to reduce the impacts of these changes at Pūkoro/Miranda. The changes are outlined below.

- Very limited area available for high tide roosts due to land development and ongoing disturbance by stock and human activity (pedestrians, campervans, 4WD vehicles, and horses). Predicted sea level rise will exacerbate this issue.

- Impact on the aggregation of the Chenier plain due to drainage techniques, sedimentation, human activities, rubbish dumping, and shell extraction.
- Loss and degradation of salt marsh vegetation due to drainage, road construction, grazing, weed invasions, and the spread of mangroves into coastal waterways due to sedimentation.
- Almost total loss of salt marsh shrub land, except in areas where it has been maintained by planting and fencing.

- Predation of nesting birds by pest animals (stoats, ferrets, weasels, hedgehogs, rats, cats, and dogs).
- Reduction in available shorebird habitat due to weed incursion.
- The loss and degradation of migratory bird resting/refuelling areas along their routes (flyways) to their Arctic breeding grounds.

### Our key activities by June 2018

- Restore and enhance shorebird habitat with a focus on the east coast shoreline. Work includes fencing, pest and weed management and re-vegetation.
- Modify public track structures to restore water flow and enhance ecosystem function.
- Explore the purchase of land with high potential habitat value at Miranda Stream mouth, and complete a restoration plan and implementation if land is purchased.
- Ensure impacts of restoration on drainage of adjoining farmland are minimised.
- Mangrove seedling removal where it is encroaching on shorebird roosting and saltmarsh vegetation.



## SUSTAINABLE FARM MANAGEMENT

ESTIMATED INVESTMENT 2015/18 **\$235K**

Pūkoro/Miranda has limited intensive dairying with ten farms in the catchment.

However, it immediately adjoins the wider Firth of Thames basin that is dominated by the intensive dairying of the Hauraki Plains. There are several beef farms located in the higher parts of the catchment.

Land and water based biodiversity in the catchment is significantly diminished. While there is very little information on the water quality characteristics of the Pūkoro/Miranda catchment, data for adjacent (similar land use) catchments indicate that the key water quality issues are related to elevated sediment, nutrient and biological inputs.

Where it is possible to complement or collaborate with the Waikato Regional Council's work on water quality, Living Water will do so.

### Our key activities by June 2018

- Work with willing Fonterra farmers across the catchment to carry out on farm biodiversity assessments and assist with implementation of the highest priority actions that enhance and restore habitat.
- Promote biodiversity restoration activities around stream beds and bank sites in the lower and upper catchment on non-Fonterra farms.



## SUPPORT FOR IWI AND COMMUNITY PROGRAMMES

There are multiple stakeholders, land tenures, and interests involved in the Pūkoro/Miranda area.

Successful restoration and protection will require a comprehensive well-supported strategy, with ongoing input by all parties and in some cases may include resourcing to support their participation.

Local Iwi Ngāti Pāoa have been invited to identify projects of their own that would advance the values of Mātauranga Māori and will continue to be invited and supported to participate in other activities within the programme.

There are excellent opportunities for developing synergies with the work of the Pūkoro/Miranda Naturalists' Trust (PMNT) in both the local area and overseas.

ESTIMATED  
INVESTMENT  
2015/18

\$420K

### Our key activities by June 2018

- Target support for Iwi and PMNT in international advocacy work to support protection of shorebirds habitats within the East Asian Australasian International Flyway sites.
- Facilitate public access improvements to connect people with the ecosystem and cultural values, allowing us to tell our story.
- Community Initiatives Funding for PMNT projects at Miranda and local educational initiatives – e.g. ECOQuest, schools programmes.
- Support for Ngāti Pāoa project to install a Po. Ngāti Pāoa expected to provide input into Miranda Stream Mouth restoration and interpretation plan.

TOTAL  
PŪKOROKORO/  
MIRANDA  
INVESTMENT  
2015/18

\$1,265K

## RESEARCH, MEASUREMENT AND MONITORING

Research will be a component of all Key Performance Areas at each Living Water site.

It will contribute to the development of new management practices that can be applied in any of the sites where relevant including Pūkoro/Miranda. Monitoring of change will demonstrate the difference we are making in the catchment and support our outcome reporting.

### Our key activities by June 2018

- Develop a research, measurement and monitoring plan that underpins our key

ESTIMATED  
INVESTMENT  
2015/18

\$220K

projects and demonstrates the value of those investments.

- Contribute to enhanced water quality monitoring.
- Measure the effectiveness of restoration projects on and off farm.
- Research the relationship between hydrology, drain management and Chenier plain condition.
- Investigate sediment sources, movement and management.
- Scope the potential impact of sea level rise on shorebird habitats and the Chenier plain.
- Investigate the potential use of grazing as a conservation management tool.

## SHARING OUR STORY

The stakeholders and local community will be informed about our progress and key findings.

Sharing our stories and knowledge will foster community engagement and understanding. Connecting people with nature and their environment to increase participation in the sustainable management of the catchment.

### Our key activities by June 2018

- Tell colourful stories of the site's natural and cultural history (past-present-future) so the site comes to life as a

ESTIMATED  
INVESTMENT  
2015/18

\$45K

biodiversity hotspot in the hearts and minds of New Zealanders.

- Focus on local community/landowners/schools engagement and buy in to restoration projects through planting days, field days and other events to showcase and promote Living Water outcomes.
- Seek to promote local Living Water initiatives through mainstream and social media as opportunities.
- Provide opportunities for involvement of Fonterra and DOC staff.



TĪKAPA  
MOANA/FIRTH  
OF THAMES  
PŪKOROKORO/  
MIRANDA  
CATCHMENT



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Reproduced in May 2016