



LIVING WATER



WORKING TOGETHER TO CARE
FOR FIVE KEY CATCHMENTS

Waikato Peat Lakes LAKES AREARE, RUATUNA & ROTOMĀNUKA STRATEGIC PLAN

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.

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



Living Water is a joint programme 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 combined three Lakes Areare, Ruatuna, and Rotomānuka catchments are one of the five programme sites across New Zealand. The other sites are in the Kaipara Harbour (Hikurangi catchment), Tikapa Moana/Firth of Thames (Pūkorokoro/Miranda catchment), Te Waihora/Lake Ellesmere (Ararira/LII catchment) and Awarua –Waituna (Waituna catchment).

SITE THEME

Restoring unique peat ecosystems.



OUR GOALS

- To improve marginal wetlands and catchment management practices that will lead to improvements in water quality within the lakes and their inflows and thereby facilitate a shift back to a low-nutrient state; allowing indigenous species characteristic of peat lakes to re-establish and dominate.
- Indigenous vegetation around the margins of the peat lakes and associated waterways and drains is restored.
- Increased diversity and populations of aquatic and terrestrial species representative of the Waikato peat lake catchments.
- Living Water projects are recognised as contributing to the long-term vision of Iwi for the peat lake catchments.
- Rural and urban communities value the special characteristics of the peat lakes and are actively involved in their protection and enhancement.



OUR FOCUS FOR 2015/18

The Living Water programme in the Waikato Peat lakes will focus on the restoration and habitat enhancement of lakes Ruatuna, Rotomānuka, and Areare, and will support farmers to undertake biodiversity assessments and adopt best drainage management practices.



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

Peat lakes are a globally rare ecosystem and the Waikato Region is home to 31 of them. Formed over thousands of years they are home to species that have become adapted to the unique conditions of peat substrate.

The peat lakes would once have been surrounded by extensive peat bogs and dense forests, highly productive environments for native birds, fish and plants which were utilised by Māori, who settled around the lakes.

While highly modified, they still have important ecological values and improving water quality will benefit the return of mudfish, bittern, fern birds, spotless and marsh crakes, dab chicks and long finned eel.

All three of the Living Water peat lake catchments are classified as Acutely Threatened under the LENZ Threatened Environments Classification, reflecting the scarcity of indigenous ecosystems in lowland areas and on peat soils in particular.



KEY SPECIES

- New Zealand Dabchick
- Tuna (eel)
- Black Shag
- Marsh Crake
- Kahikatea
- Raupo
- Kuta



OUR PARTNERS

- Fonterra farmers: There are 11 Fonterra farmers in the catchments. Their individual and collective contributions are vital to the success of our programme.
- Waikato Tainui and Ngāti Apakura hold mana whenua over these peat lakes and we will work closely and seek advice on how to achieve Mātauranga Māori.
- Waipa District Council, Waikato District Council, Waikato Regional Council (WRC): Councils as neighbouring land and statutory managers, will be involved with us every step of the way.
- The NZ Landcare Trust, the National Wetland Trust of New Zealand and the Lake Ruatuna Users Group: All hold technical and practical expertise through peat lake restoration projects and continue to contribute significant resources.
- The Waikato River Authority: The WRA, a co-governance body established between the Crown and Waikato River Iwi, funds restoration projects in the Waikato River catchment.
- QEII National Trust: Provides permanent legal protection for special places on private land.
- Fish and Game Waikato: Technical and practical expertise in the management of the lakes as key habitats for sport fish and game birds.

Lake Ruatuna catchment



Ruatuna
Catchment
Legal Property
Boundaries
NaPALIS
All Protected Areas



Department of
Conservation
Te Papa Atawhai
New Zealand Government

0 250 500
m

Lake Rotomānuka catchment



Rotomānuka
Catchment
Legal Property
Boundaries
NaPALIS
All Protected Areas



Department of
Conservation
Te Papa Atawhai
New Zealand Government

0 500 1,000
m



Lake Areare catchment



Legend

- Lake Areare - 32.0ha
- Lake Areare catchment: incl Lake - 262.8ha
- Dairy Farming
- Non Dairy land use



Department of
Conservation
Te Papa Atawhai
New Zealand Government



0 250 500
Metres
NZGD 2000 New Zealand Transverse Mercator
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Produced by: abarnetts@doc.govt.nz
Date Produced: 26/09/2014
DOC, Geospatial Services

ECOSYSTEM ENHANCEMENT

Poor water quality is the key issue across all the peat lake catchments, being the main cause of the lakes' poor indigenous ecosystem condition.

The lakes have elevated levels of nutrients (in the eutrophic to super trophic range), sediment and pathogens and considerable nutrient stores within lake sediments.

Restoration of water quality in shallow lakes is very difficult and will require a range of remediation measures.

Less than 2% of the pre-1940 wetland vegetation now remains in the Hamilton Ecological District and only around 10% of the total area remains in any form of indigenous vegetation.

Causes of continuing habitat degradation include:

- Poor water quality.
- Hydrological changes through drainage and continuing shrinkage of peat soils which have lowered lake water levels causing drying of the lake's margins and changes in their plant communities.

- The lake margins have pest plants but not the worst species.
- Pest mammals, including rats, mice, stoats, ferrets, weasels, cats, possums, hedgehogs, and uncontrolled dogs, threaten populations of indigenous flora and fauna.
- Pest fish, particularly rudd, threaten the re-establishment and survival of aquatic macrophytes. Koi carp are a significant threat and occur across the Waikato but not in these lakes.

Our key activities by June 2018

- Restoration and habitat enhancement of the three lakes. Prepare sites for restoration planting; maintain established plantings using Department of Corrections clients and other volunteers.
- Implement terrestrial pest management programme.
- Implement pest fish management programme.

- Weed control programme at all sites.
- Continue with restoration activities specified in Restoration Plans at the three lakes e.g. Living Legends planting and silt trap planting.
- Further silt trap construction. Investigate and co-fund installation of further silt traps and modify NZTA expressway wetland.

ESTIMATED
INVESTMENT
2015/18

\$940K



SUSTAINABLE FARM MANAGEMENT

The principal threats to the health of aquatic flora and fauna are the high levels of nutrients and sediment entering the lakes from pastoral farming, along with the effects of ongoing shrinkage of peat soils.

Mitigation measures need to target both on-farm land use activities and the management of the extensive networks of drains. Integrating biodiversity back into the farming landscape is also a key objective.

There are eleven (11) Fonterra farmers in these catchments. A number of landholders around Lake Rotomānuka already have a Farm Environment Plan (FEP) prepared by the NZ Landcare Trust using the Whole Farm Plan format and we will seek to collaborate and/or support the

implementation of recommendations that will enhance biodiversity and water quality. The programme will offer farm biodiversity assessments to compliment these plans.

Our key activities by June 2018

- Support farmers to identify what is special on their land through biodiversity assessments and implement priority actions.
- Support the implementation of FEP's at Rotomānuka.
- Install silt traps at all lakes and encourage recommended drain management best practice.
- Promote sustainable drain management principles and practices in the catchment.

ESTIMATED
INVESTMENT
2015/18

\$435K



SUPPORT FOR IWI AND COMMUNITY PROGRAMMES

There are multiple stakeholders, land tenures, and interests involved in the Waikato Peat Lakes catchments.

Successful restoration and protection will require credible, comprehensive, and well-supported engagement and collaboration with ongoing input by all or some of these parties. We will support agreed components of existing restoration plans. We are already supporting an approved project at Lake Areare funded by the Waikato River Authority and our lake margin restoration activities will compliment restoration planning already undertaken at Ruatuna and Rotomānuka by Waipa District Council and Landcare Trust.

Waikato Tainui and Ngāti Apakura hold mana whenua over these peat lakes. Their concerns are the loss of wetlands and indigenous ecosystems including their importance as key habitat for mahinga kai and taonga species; the degradation of the Mauri of these

ESTIMATED INVESTMENT 2015/18 **\$360K**

waterways; the decline in water quality of all water bodies; weed infestation of lake margins; and the threat to lakes and wetlands from intensified land use.

Our key activities by June 2018

- Partner with National Wetland Trust to identify support for specific projects that accelerate their work programme at Lake Serpentine (Rotomānuka catchment).
- Work with Waipa District Council and schools to support Ruatuna Amenity Block and surrounds upgrade.
- Improve public access: public entrance, car park and track improvements at all three lakes.
- Community Initiatives Fund to support EnviroSchools and community nurseries.
- Funding support for iwi to become involved in restoration activities.
- Holding wānanga and developing Mātauranga Māori monitoring plans.

TOTAL WAIKATO PEAT LAKES INVESTMENT 2015/18

\$1,985K



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 where relevant. Monitoring of change will demonstrate the difference we are making in the catchment and support our outcome reporting.

Our key activities by June 2018

- Support Waikato Regional Council (WRC) to improve water quality monitoring in

ESTIMATED INVESTMENT 2015/18 **\$190K**

these lakes e.g. install a continuous monitoring buoy in Ruatuna.

- Support Waikato University water quality influences research project to investigate groundwater, in lake and into lake processes and to recommend solutions.
- Pest fish management - interventions monitoring.
- Accurate peat soil and catchment drainage mapping.
- Contract and implement surveys on sites for birds, bats, insects and lizards to establish presence or absence and to inform of future activity.

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.

ESTIMATED INVESTMENT 2015/18 **\$60K**

restoration programmes through planting days and field days to show silt traps and drain management practices. Interpretation will tell cultural, natural, and economic development history. Seek to promote local Living Water initiatives through mainstream and social media as opportunities arise.

Our key activities by June 2018

- Focus on local community/landowners/ schools engagement and buy in to



WAIKATO PEAT LAKES

LAKES AREARE, RUATUNA & ROTOMĀNUKA



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Reproduced in May 2016