

COMMUNITY SUSTAINABLE LAND MANAGEMENT FOR

Waikato Lakes Catchments

JUNE 2010

This project is about you,
your catchment and the
lakes on your backdoor step.

Recent planting day at a newly constructed silt trap at Lake Kaituna – the sedges will protect the edges of the trap, help absorb excess nutrients and provide cover for wildlife. Photo: Monica Peters

THE NZ LANDCARE TRUST IS COORDINATING A 3 YEAR PROJECT FOCUSING ON SHALLOW LAKES IN THE WAIKATO REGION. THE PROJECT IS WORKING TOWARDS IMPROVING BOTH SHALLOW LAKE AND CATCHMENT HEALTH WITH A WIDE RANGE OF WAIKATO STAKEHOLDERS – THAT'S YOU, LOCAL AND REGIONAL COUNCILS, COMMUNITY CARE GROUPS, DOC, SCIENTISTS, IWI AND INDUSTRY. THIS NEWSLETTER MARKS THE END OF YEAR 2 OF THE PROJECT WITH NEW STAFF COMING ON BOARD TO ASSIST. CONTENTS INCLUDE A SHORT ARTICLE COVERING THE DIFFERENCE BETWEEN A NUTRIENT MANAGEMENT PLAN AND NUTRIENT BUDGET; AN OVERVIEW OF DIALOGUES WITH FARMERS AROUND LAKE NGAROTO, AND THE BENEFITS OF HAVING A COMPREHENSIVE FARM PLAN. A NEWLY DEVELOPED FACT SHEET ON SILT TRAPS IS ALSO INCLUDED.

Project supporters:



NUTRIENT BUDGETS & NUTRIENT MANAGEMENT PLANS: What's the difference?

Nutrient budgets

A nutrient budget compares overall nutrient inputs in a farm system to the outputs. In short, a nutrient budget can help identify production and/or environmental issues resulting from over-applying or under-applying nutrients. The budget can then be used to evaluate different nutrient management scenarios to decide what's going to be the most cost effective.

Nutrient Management Plans

A Nutrient Management Plan (NMP) is the next step up from a nutrient budget. The NMP defines overall nutrient needs as well as the amounts, sources, placement and timing of applications to maximise nutrient uptake and minimise losses. If the NMP is used correctly, farm production and profitability can increase while at the same time lessening environmental degradation. The NMP identifies actions you can take to minimise loss of nutrients from your production system. Some of the key areas the NMP may identify include:

- Fertiliser management
- Effluent management
- Soil management
- Pasture management
- Production and stock management
- Riparian management
- Cropping management
- Management of waterways risk from hot spots: silage pits, offal holes and farm dumps

The Rules

Environment Waikato's Regional Plan has rules for fertiliser application.

Under Rule 3.9.4.11 fertiliser application is a permitted activity, though subject to conditions. One of the conditions is that an NMP must be used to plan fertiliser application where nitrogen fertiliser is applied at rates greater than 60 kg N/ha per year.

Where can I get more information from?

Templates are available from www.fertresearch.org.nz in the 'code of practice' section of the website.

Search for "nutrient management plan guidelines" on Environment Waikato's website: www.ew.govt.nz

Whole Farm Management Plans

These plans are a comprehensive overview of the whole farm system.

They are based on a thorough look at how a farm is operating, from an economic, environmental, and physical performance perspective.

Based on the resources that are unique to the farm, management scenarios are built, taking into account the goals and values of the owner/operators, the farms physical resources, and the business as a whole.

Nutrient Efficiency, optimum economic performance and farm system design are all integrated into a plan. The outcome ideally indicating a path forward for a farmer to consider various management scenarios.

In nearly all cases, integrating best nutrient management practises into farm system design can result in more profitable, lower risk systems if they are managed well.

There is a component of education and coaching as part of these plans to assist with any change to the farm management if it is required.

It is likely that as an industry, this sort of approach will become more commonplace. More farm advisors will become better skilled with tools to deliver this. Leading farmers in the industry are already adopting this approach, as it makes good business sense to do so.

For more information contact Alison Dewes: alisondewes@gmail.com



Landowner dialogues around Lake Ngaroto

Lake statistics – Ngaroto

Lake Ngaroto at 108ha is the largest peat lake in the Waikato region. In spite of its size it only has an average depth of 2m - like all peat lakes, water levels have been lowered due to drainage. With a catchment area covering 1846 ha, Lake Ngaroto is surrounded by a high number of farms relative to other peat lakes. The lake and Waipa District Council Reserve are popular destinations for walkers, joggers, sailors, kayakers and gamebird hunters.

Lake statistics – Ngarotoiti 'little Ngaroto'

Adjacent lies Lake Ngarotoiti, a Department of Conservation administered Wildlife Management Reserve. Despite its small surface area (3.42 ha), Ngarotoiti has a sizeable catchment (504 ha) incorporating the township of Ohaupo. Water from Ohaupo, and drains alongside the North Island trunk railway line running to the west of the township, discharge to the lake. A main drain discharges water from Lake Ngarotoiti to Lake Ngaroto.

Talking to the locals

Between November 2009 and February 2010, seven landowners, one sharemilker and three farm managers from a total of 8 properties around Lake Ngaroto were interviewed.

The majority of landowners were long term residents of the catchment and the views expressed provided an insight into how the lake and surrounding catchment has changed particularly in relation to land use, riparian zones and water quality. With the exception of one farm, all are intensive dairy –the predominant land use in most of the Waikato peat lake catchments.

Stocking rates vary between farms with an average of 3.1 cows/ ha with several farmers lowering their stocking rate to achieve lower input costs though not necessarily at the expense of lowering production.

The topography of the catchment and the resulting range of soil types clearly provides challenges – low lying peat areas being the most difficult to manage. However, shrinkage of the peat resource was not widely regarded as a significant issue.

The level of the lake established by a weir plays a strong influence on both lake catchments with flooding taking place regularly during wet periods. Drainage emerged as the most mentioned management challenge overall, hence the desire to find out about where the new lake levels will be set.



Lake Ngaroto from the air.

Collecting data from the lake

A Buoy is located in Lake Ngaroto that takes readings every 15 minutes of water temperature, dissolved oxygen, chlorophyll a and phycocyanin (i.e., algae and blue-green algae, respectively) as well as meteorological variables (wind speed and direction, rainfall, air temperature, humidity). The data is collected by the Centre for Biodiversity and Ecology Research Department of Biological Sciences (CBER) at The University of Waikato and given to Waipa District Council.

Successful Field Day

A best management practice field day on improving catchment water quality was held in Te Pahu on the 29th June with over 70 participants from both the local and wider farming community attending. Presentations from two NIWA scientists and one from Environment Waikato were then followed by practical sessions on water quality monitoring and electric fishing. Feedback from the day has been very positive and if you would like further information please contact Nardene or Melinda.

Anne Lightfoot with helpers testing the pH of Te Pahu stream. Photo: Nardene Berry



Recent and Upcoming Publications

Landcare: A Practical Guide—is a new publication produced by the NZ Landcare Trust aimed at farmers and landowners. The emphasis is on basic, practical information. A large section is devoted to a series of case studies where farmers and landowners share their motivations, challenges and successes. The guide includes information about key farm management practices and how they can be adapted to make a positive difference.

The NZ Landcare Trust is currently working on a Best Management Practice booklet which will be available at the end of July. If you would like a copy of either of these please let us know.



Silt traps

Silt traps are widely used in the forestry industry, but their use on the farm is still relatively new. One of the reasons behind the increasing interest lies in the recognition that if the condition of the already degraded lakes is to be improved, then a wide variety of tools need to be used. These tools include whole farm management, restoring wetland areas, in-lake works such as removing pest fish – koi in particular stir up lake bottoms as well as eat all aquatic plants, including beneficial ones.

Inside this newsletter is a fact sheet on silt traps. This was developed after a group of experts collaborated through an on site 'think tank' at Lake Kaituna and Komakorau care group member Andrew Hayes Horsham Downs property. Topics covered were how to design silt traps for maximum effectiveness and for multiple uses. Experts included:

- Scientists from NIWA and University of Waikato
- Land managers from Environment Waikato and Waikato District Council
- Drainage engineers from Environment Waikato and Waikato District Council
- Department of Conservation (DOC)

All agreed some basic research needs to be done to determine how well existing systems do their job. A basic set of calculations for sizing silt traps in relation to the catchment and water velocities needs to be developed also.

James Sukias from NIWA pointed out that we can use silt traps for more than just their sediment trapping and nutrient processing functions – they can become additional wetland areas for native wildlife and game birds.

If you would like more copies of this fact sheet or an electronic version please contact us.

New Zealand Landcare Trust

NZ Landcare Trust (NZLT) is a non-government organisation working primarily in the rural sector on sustainable land management projects. NZLT works in partnership with rural communities, local and regional government, iwi and rural industry to implement practical projects with a practical "action on the ground" focus.

Visit our website!

Our website houses project information as well as a range of useful land management resources for landowners as well as tools for landcare groups. www.landcare.org.nz

Introducing the new Project Coordinators

Monica Peters has now left the Landcare Trust on maternity leave and will be back some time next year. In the mean-time Melinda Dresser and Nardene Berry will be sharing her role as Project Coordinators on the Sustainable Management funded project: 'Community Sustainable Land Management for Waikato lake Catchments'.

Melinda is returning to the Landcare Trust from 10 months of maternity leave. She previously worked as a Project Coordinator looking at addressing land and water issues through partnerships in the Rotorua catchment.

Nardene spent three years supporting Care groups in the Waikato Region as Waikato Coordinator; a position funded by Environment Waikato and the Landcare Trust. Nardene then went on maternity leave and now has two children (4 and 2 years). She is delighted to be back, job sharing with Melinda.

Nardene Berry & Melinda Dresser

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