Taharua and Upper Mohaka Draft Strategy

A Discussion for Future Management

July 2011

HAWKE'S BAY
REGIONAL COUNCIL

Contents

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Cover image (kayak) courtesy of Mark Mahoney

Introduction

Science alone can't tell us how to manage our rivers. We need to know what the community values and wants for the future. Your views or the view of your organisation are important to the process.

Local landowners and other key organisations in the Taharua Stakeholder Group (TSG) are working with Hawke's Bay Regional Council to address water quality issues in the Taharua and upper Mohaka rivers due to land use intensification in the Taharua catchment.

The Council and the TSG believe a successful strategy needs to combine a partnership approach to achieve continuous improvement with solutions that can endure landowner changes or shifts in intensive land uses.

Hawke's Bay Regional Council welcomes your comments on this draft strategy for the future health of these rivers. As you read this document please consider whether you agree with the:

- values, vision and goals for future management
- proposed water quality targets
- strategies to meet these targets.

Strategy Highlights

- Restore the health of upper Mohaka and Taharua rivers over the next 15 years
- Taharua landowners make necessary changes over the next 10 years
- Regional Plan sets targets and a clear framework to meet them
- Stakeholders and the Regional Council continue to work in partnership

Science alone can't tell us how to manage our rivers.

We need to know what the community values and wants for the future.

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A Unique Environment

The upper Mohaka River lies at the heart of one of the nation's best wilderness landscapes. For many people it encapsulates "what New Zealand is about". The river and its tributaries are integral to the local iwi identity, provide relatively easy access for a range of high quality recreation, and underpin the future prosperity of many businesses.

The headwater Taharua sub-catchment is part of this iconic area. Following land conversion for farming in recent decades, Taharua is now a catchment of contrasting landscapes. The change in land use has impacted on water quality that underpins the outstanding characteristics of the area. A harsh climate, free-draining pumice flats and underlying shallow groundwater makes this a challenging catchment to farm, and landowners are committed to investigating ways to improve water quality.

Water Conservation Order recognition

The Water Conservation (Mohaka River) Order 2004 was approved by the Government following requests to protect outstanding characteristics and features of the Mohaka. These include an outstanding trout fishery in the main river upstream of State Highway 5 and its tributaries (including Taharua); and an outstanding amenity for water-based recreation (e.g. kayaking) from State Highway 5 to Willow Flat.

The Resource Management Act requires that a regional plan 'must not be inconsistent with' a water conservation order. The focus of the Mohaka Order was intended to prevent damming for hydro-electricity, but gives no clear limits as to what is required in terms of water quality. The Order allows the Regional Council to exercise discretion in setting water quality limits, as long as these limits do not detract from the outstanding characteristics and features of the river. The Order does not necessarily require the Regional Council to make discharge rules for river protection, but water quality is a key element to maintenance and enhancement of this nationally recognised waterway.

For details of the Mohaka Order, www.mfe.govt.nz/issues/water/freshwater/water-conservation.

Courtesy of www.abovehawkesbay.co.nz

Taharua quick facts

Location: Taupo volcanic plateau, west of SH5 approximately 30 km from Taupo, on the western edge of the Hawke's Bay region, bordering Bay of Plenty.

Description: Headwater catchment (13,409 hectares) of Mohaka River. Taharua River is spring sourced and groundwater-fed. Can contribute over 50% of upper Mohaka flow.

Soils: Pumice flats (erosion-prone, free-draining to groundwater)

Land uses: dairy (about 35% of catchment), forestry, pasture (some sheep/beef), native forest/scrub.

First developed: late 1960s (sheep and beef). Government subsidised.

The Issue

This draft strategy is informed by 10 years of water quality monitoring and 5 years of science investigations to understand the issue and inform action. A summary of how understanding has grown can be found in a separate pamphlet titled '**Defining the Issue**' on the Taharua web page at www.hbrc.govt.nz, search on 'Taharua'. Science reports are also available here.

What's been happening?

Due to land use intensification (1 dairy farm in 1989; total of 3 dairy farms from 1999), and corresponding increasing Nitrogen load to waterways via groundwater, the water quality of the upper Mohaka and Taharua rivers has been steadily declining over the last decade.

In the Taharua River

Nitrate concentrations exceed toxicity guidelines for protection of fish and other aquatic life. There has been a decline in Taharua trout fishing since 2003, from around 20 % to 3% of angler days (based on Taharua landowner records).

In the upper Mohaka

The natural character of the upper Mohaka River, downstream of the Taharua confluence, is changing. Algal blooms are, at times, observable 12 kilometres downstream from Taharua.

There is a marked trend of increasing Nitrogen levels at Glenfalls (approximately 55 km downstream of Taharua), correlating with land use change in the Taharua catchment.

Why we should care

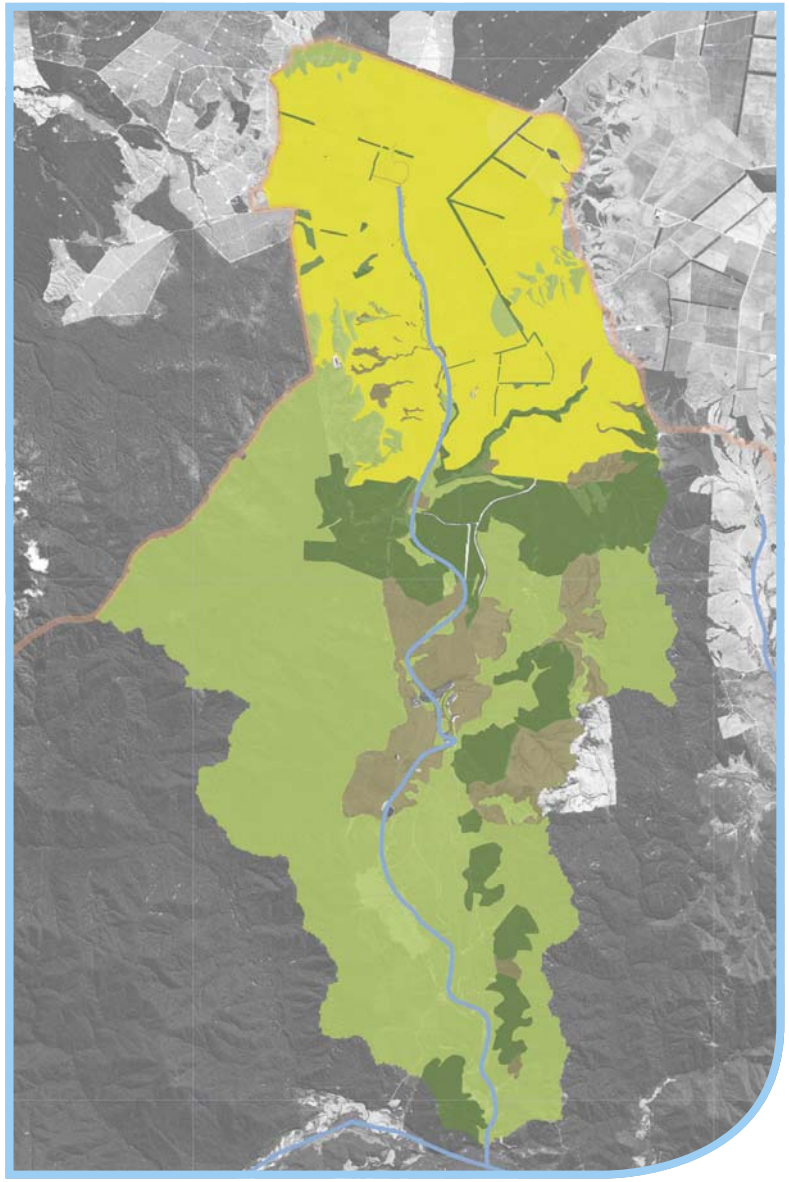
The decline in water quality is adversely affecting an outstanding, nationally-recognised trout fishing area, cultural values, and compromising opportunities for recreational activities on both rivers.

This water quality issue is distinctive in that the nutrients are entering the headwaters of a wild and scenic river and, in doing so, have an impact at the point where values are highest. This is quite different from other catchments in New Zealand where nutrients are often highest down river in lowland areas.

Long-term thinking

There is no quick fix. There is a time lag of about five years for Nitrogen lost from Taharua land uses to reach the river through shallow groundwater. Therefore the full effects of current land use won't be seen for about five years, and correspondingly, any improvements made will take the same amount of time to have a measurable impact.

The Issue



Taharua Nitrate Trends (Twin Culverts)

Taharua Land Use

Taking Action

In 2009 Hawke's Bay Regional Council committed to working in partnership with key stakeholders on a lasting solution to the Taharua-upper Mohaka issue. This must endure any landowner changes or shifts in intensive land uses.

What should the future look like?

Science alone can't tell us how to manage our rivers. We need to know what the community values and wants for the future.

The Taharua Stakeholder Group (TSG) have shared their own values and agreed a vision and goals for the Taharua catchment and upper Mohaka.

The Group supports a balanced approach that recognises environmental limits and provides for a range of benefits, including sustainable businesses. Connections across the Mohaka catchment ("mountains to sea") and to future generations are important. The Group is interested in "how we get there" as well as "where we want to be".

This means stakeholders (including the Regional Council) supporting each other and taking joint responsibility for the future.

Council's partnership with the TSG does not replace wider public input into decision-making processes.

The Taharua Stakeholder Group (TSG)

This is a working group of key stakeholders, who have been partnering Council since 2009, to find lasting catchment solutions that encompass all the 'sustainability principles' and will endure through changes in land ownership. Representatives are currently:

Catchment landowners:

Includes three dairy farms, one tourism / mixed pasture / forestry operation, forestry; Department of Conservation

Dairy interests:

Federated Farmers
DairyNZ
Fonterra

Iwi:

Ngati Tuwharetoa
Ngati Hineuru
Ngati Pahauwera
Mana Ahuriri

Environmental:

Department of Conservation,
Fish and Game Hawke's Bay

Councils:

Taupo District Council
Hawke's Bay Regional Council

Taking Action

Taharua Stakeholder Goals

Healthy Rivers

- For all aquatic life
- Reduced algal content
- Reduced nutrient load
- Drinkable river water

Economic

- Build economically strong businesses

Social/ Cultural

- Take collective responsibility
- Turn negatives into positives
- Fair and equitable solutions

The Group supports a balanced approach that recognises environmental limits and provides for a range of benefits, including sustainable businesses.

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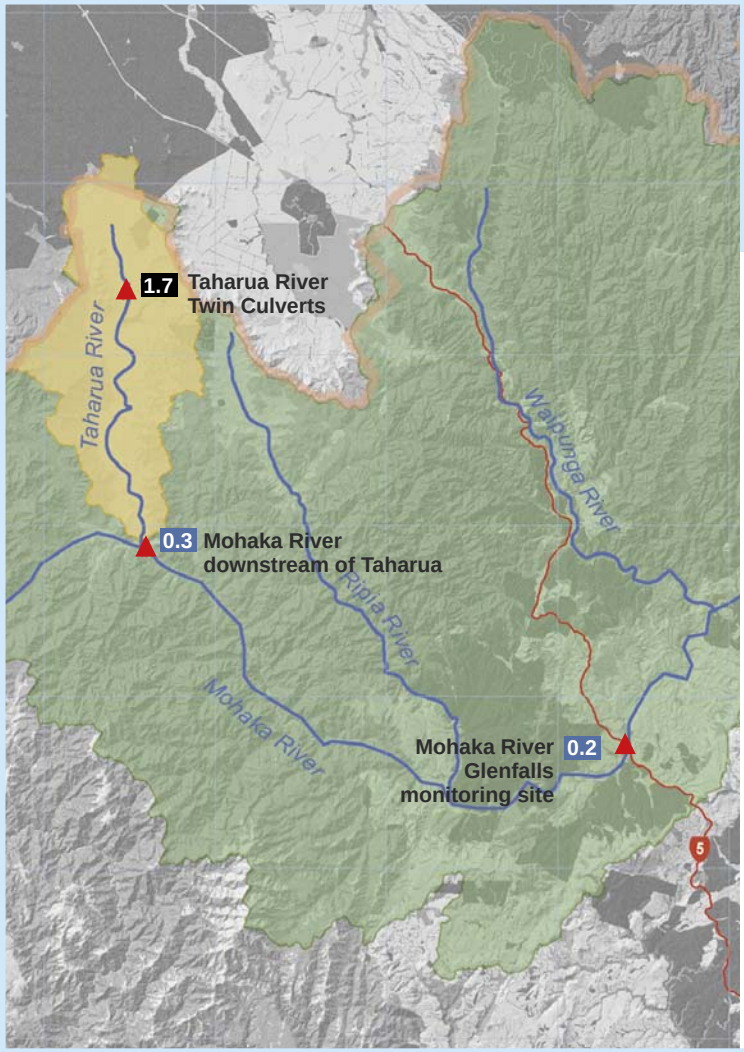
Proposed Water Quality Limits

Proposed water quality limits have been agreed in principle by the TSG. The limits are informed by the latest science and the TSG's values, vision and goals for Taharua and the upper Mohaka.



Location of proposed Limits

LEGEND

Mohaka catchment

Taharua catchment

0.3
Recommended natural character limit (mg/l total Nitrogen)

1.7
Recommended Nitrate toxicity limit (mg/l NO_3^-)

Monitoring sites

River Management Objectives

Separate management objectives are proposed to address different issues in the Taharua and upper Mohaka rivers. In the Mohaka, nuisance algal blooms impact a range of community values. In the Taharua, although Nitrate levels are too high for healthy river life, bed mobility and lower water temperatures inhibit algal blooms on the pumice bed.

Taharua

- Promote biodiversity values
- Provide suitable conditions for a high-value trout fishery and healthy native fishery

Upper Mohaka

- Protect the high natural character
- Reduce downstream impacts to a level acceptable to the Hawke's Bay community.

Nitrogen (N) and Phosphorus (P)

- Both are key nutrients to manage for river health.
- Total N (including Ammonia, Nitrite, Nitrate) can contribute to nuisance algae in the Mohaka River.
- Highly soluble Nitrate (about 90% of N in the Taharua River) has toxic effects on fish and invertebrates above certain levels.
- Nitrite and Ammonia can be toxic, but current levels are very low.
- P is sometimes elevated, but mostly falls below Regional Plan guidelines, with no clear trend. Recent Taharua fencing will help reduce P entering the river through soil loss.

Courtesy of www.abovehawkesbay.co.nz

Proposed Water Quality Limits

Taharua Nitrate Toxicity Limit:

Twin Culverts: 1.7milligrams/litre Nitrate
Protects 95% of aquatic animals (fish and invertebrates) - recommended for “modified environments”. Higher (99%) protection is recommended only for ‘pristine’ environments.
Reflects Nitrate concentrations before the marked decline in the trout fishery around 2003/04.
Based on the review of Nitrate toxicity to freshwater aquatic species (Hickey and Martin 2009), which informs review of New Zealand ANZECC water quality guidelines (see MfE website).
Relevance of above report to Taharua/Mohaka has been confirmed by the authors.
No New Zealand information on the sensitivity of native fish species to Nitrate levels to inform the limit (gap needs addressing).

Upper Mohaka Natural Character Limit:

Below Taharua confluence: 0.3 mg/litre total Nitrogen At Glenfalls monitoring site (55km downstream): 0.2 mg/litre total Nitrogen
Lowers Nitrogen levels immediately below the Taharua confluence - comparable to the current Glenfalls level, which supports high natural character (clarity, colour and limited algal growth).
Increases protection downstream with Nitrogen levels at Glenfalls restored to 1990s levels.
No toxicity risk to fish and invertebrates.
Covers the extent of the outstanding trout fishery in the Mohaka WCO.

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Proposed Timeframe

The TSG support the provisional timeframe below as realistic, subject to full economic assessment. Key points are:

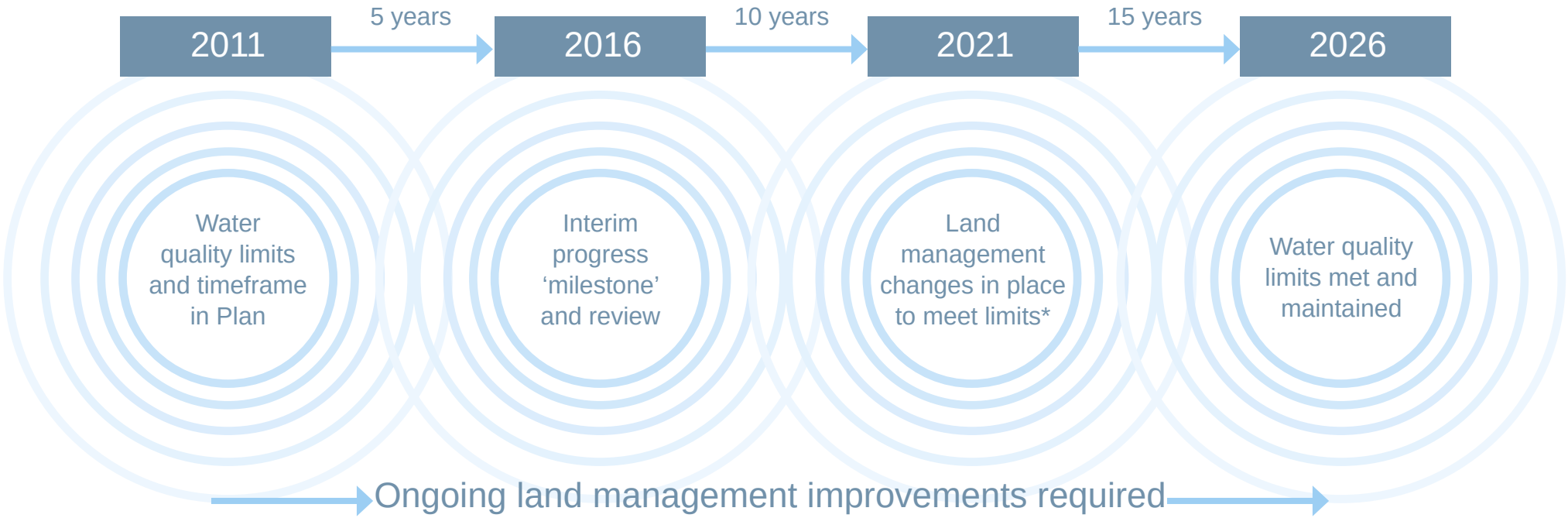
1. Improvement of farming practices is expected to continue. Securing ongoing improvement is a key reason why Council is taking a collaborative approach with the TSG.

Landowners have already made significant Improvements to nutrient management practices in recent years. These may not yet be seen in water quality results due to groundwater lag times.

2. Substantial additional investment is likely to be required by farmers to meet the proposed targets. All TSG representatives have endorsed a vision of "protecting environmental values for future generations" and being "socially and culturally responsible" and "providing economic sustainability."

The economic wellbeing of landowners is a critical consideration in how, when and who acts to improve water quality issues in the rivers.

3. The land uses were allowed as of right under the legislation at the time they were established, and are currently compliant with the Regional Resource Management Plan.



*Recognises 5 year lag (approx) for reduced Nitrogen loss from land to benefit the rivers

The Strategy to Meet These Targets

There is no ‘silver bullet’ for meeting the proposed targets. We need a number of actions that work well together.

The approach outlined here should ensure targets are met and support continuous improvement through partnership. It builds on three ‘guiding principles’ of the TSG: a results focus; maximum flexibility; and fairness and equity.

What do the proposed water quality limits mean for Taharua farmers?

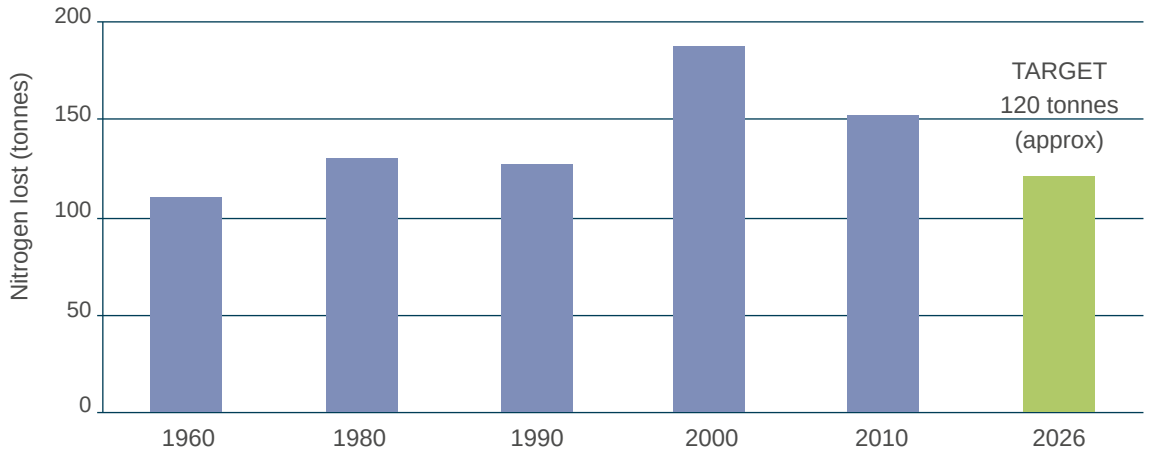
Council has a whole of Mohaka model (from NIWA) to inform the reduction in Nitrogen from the Taharua catchment that is needed to meet the proposed water quality limits.

Initial modelling results indicate that total Nitrogen loss from the catchment will need to be reduced from around 153 tonnes (2010) to around 120 tonnes a year. Monitoring and investigation will increase certainty about what is required over future years.

This reduction will require significant investment from dairy farmers, particularly as many easier on-farm improvements have already been implemented to reduce catchment Nitrogen losses (as shown below).

It is estimated that dairy farms have reduced Nitrogen yields from about 50 to 35 kgN/ha/year in the last few years. Assessment of the financial implications for landowners of meeting the proposed water quality limits is ongoing.

Nitrogen Lost From The Taharua Catchment



Note: This catchment Nitrogen reduction target is approximate only. An actual target is yet to be agreed by Council and TSG. Any initial figure may need to be refined as information increases with monitoring and modelling.

The Strategy to Meet These Targets

Underpin progress in the statutory Regional Plan

Council has committed to publicly notifying a Taharua plan change to the Regional Resource Management Plan by the end of 2011. It will include objectives, water quality limits and timeframes (e.g. as discussed in this draft strategy) and policies, rules and other methods to ensure progress, but is not “the solution” in itself.

Prevent any increase in Nitrogen loss

As a starting point, the Plan must prevent any increase in total Nitrogen loss from the whole Taharua catchment. The TSG fully supports this and agrees that the goal must be to reduce nutrient loss to the rivers. Any increase in loss from a property will need to be fully offset by other land uses in the catchment

Set clear limits and timeframe

The Plan will set out water quality limits and the timeframe to meet them. It will set out what this means for Nitrogen losses from land. Interim targets could be included in the Plan, as well as a final target, to give greater confidence of progress.

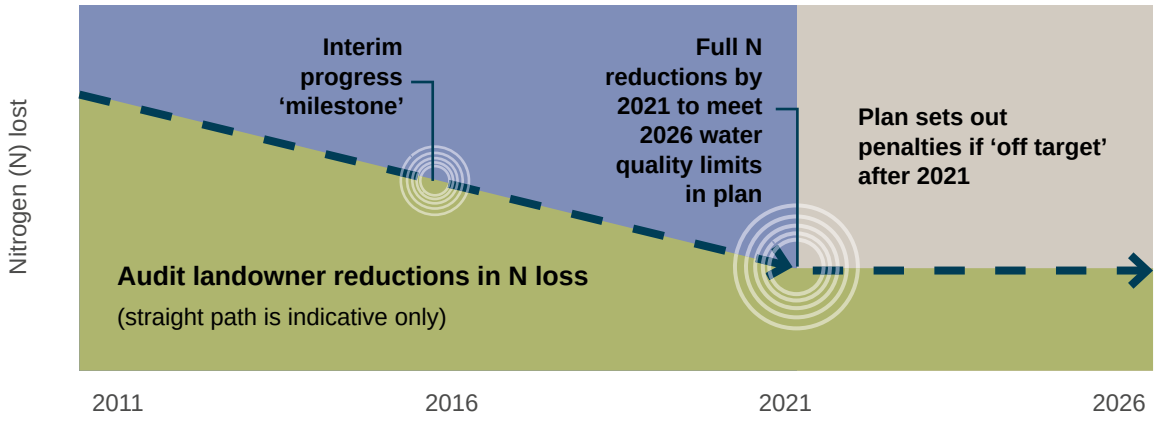
Provide a mechanism to ensure reduced Nitrogen loss

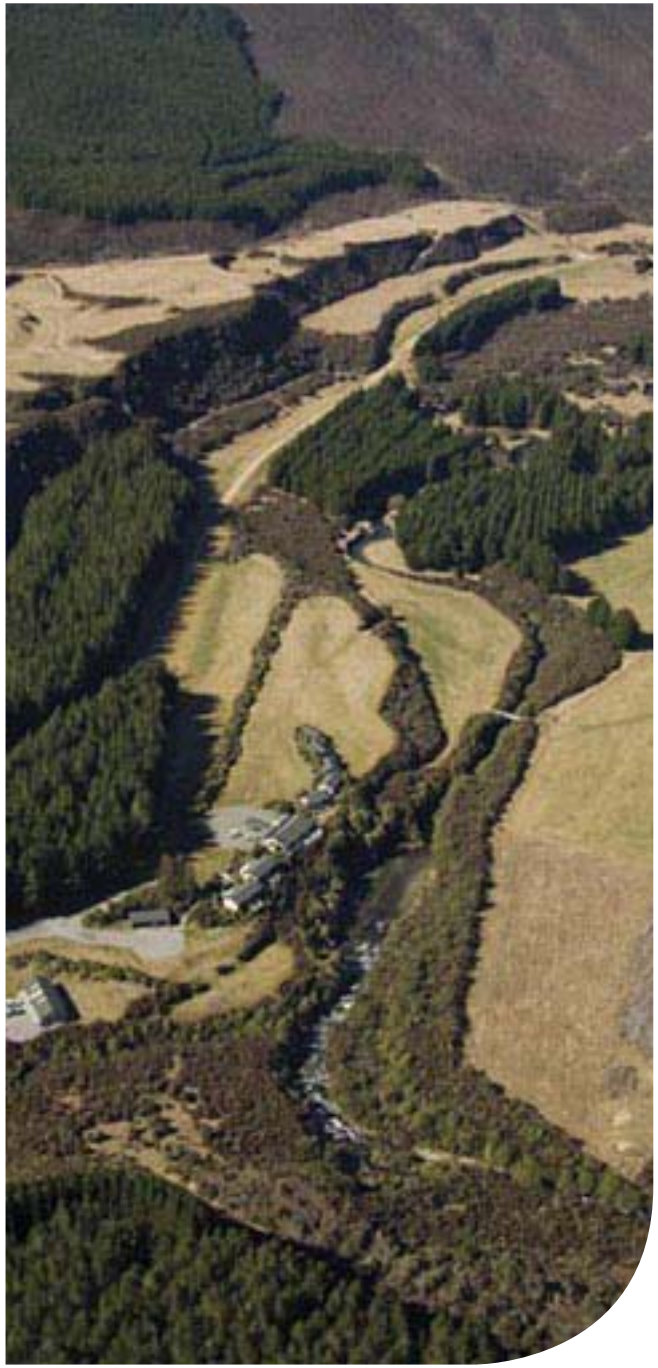
The task of reducing the total amount of Nitrogen lost from the Taharua catchment needs to be divided between landowners by allocating whole-of-property discharge limits. Rules can set out what is required, including reporting.

An effective and fair method of allocating Nitrogen discharge limits will ideally be agreed among landowners themselves. Landowners want flexibility to have higher Nitrogen losses if fully offset elsewhere in the catchment. A Nitrogen trading scheme and other options will be investigated.

There is no ‘silver bullet’ for meeting the proposed targets. We need a number of actions that work well together.

Ensuring Nitrogen Reduction By Landowners





Courtesy of www.abovehawkesbay.co.nz

The Strategy to Meet These Targets

Take a broad focus: not just Nitrogen

The Plan will address other issues that could impact the health of the rivers and Taharua catchment, including: Phosphorus (P) management, enhancement of river banks and wetlands and soil erosion, quality and health.

Many initiatives to reduce Nitrate entering the river, or enhance catchment values (e.g. riparian planting) would also improve on currently good P management. Development of river-specific targets will be investigated for P, water clarity, habitat and biodiversity.

Support collective action

Partnership between Council and the TSG will continue through to implementation. Benefits can include: a proactive, responsible community; pooling of knowledge and resources; and enhancement of a wider range of community values.

Landowners may wish to form a catchment body (or "club") for future management. Provision for this approach can be made in the Plan. Clear working relationships with the Council and TSG would be set out. Collective action by stakeholders will also be supported through an action / implementation plan.

Review progress and report publicly

The groundwater lag time of about five years means that improvements made on the land today may not benefit river quality until around 2016 (some earlier improvement may be seen). To give a picture of progress, Council can set up tailored monitoring and require landowners to provide independently audited nutrient budgets. Council could:

- Report on progress of farms against an interim milestone in the Plan (e.g. 5 years)
- Set out Plan review procedures if performance is unsatisfactory
- Provide public updates on action plan implementation

Agree a catchment action and implementation plan

The Plan will require the TSG to develop an approved action / implementation plan within an agreed timeframe. This supporting plan would set out additional improvement steps and responsibilities. It can be adapted as 'best practice' evolves over time. There may be creative off-farm methods for reducing Nitrogen in the rivers, as well as on-farm actions.

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The Strategy to Meet These Targets

Identify practical ways to reduce Nitrogen loss from farms

Select tools from the toolbox.

Dairy farmers want to know how to meet water quality targets while maximising profit. Council has engaged an independent advisor to assist landowner decisions. The ‘toolbox’ might include options such as: wintering off stock; changing type of supplementary feed; controlled duration grazing; and nitrification inhibitors to keep Nitrogen in the soil.

Monitor and adapt.

Farm systems and the environment are complex, so learning and adjustment will be needed to ensure river health and economic sustainability. Council will shape its monitoring and investigations to inform landowner improvements, including better understanding of how further reductions in farm Nitrogen loss can be made.

Practical research and funding.

Council will investigate joint-funding and practical research opportunities to support management of Taharua catchment and the upper Mohaka. For example, we need to better understand how to protect and enhance native fish species.

Avoid ‘knock on’ effects

Council will ensure that tackling the Taharua issue does not cause new problems elsewhere. Council will continue liaison with neighbouring Bay of Plenty
Regional Council on potential cross-boundary issues.

> The approach outlined should ensure targets are met, and support continuous improvement through partnership.

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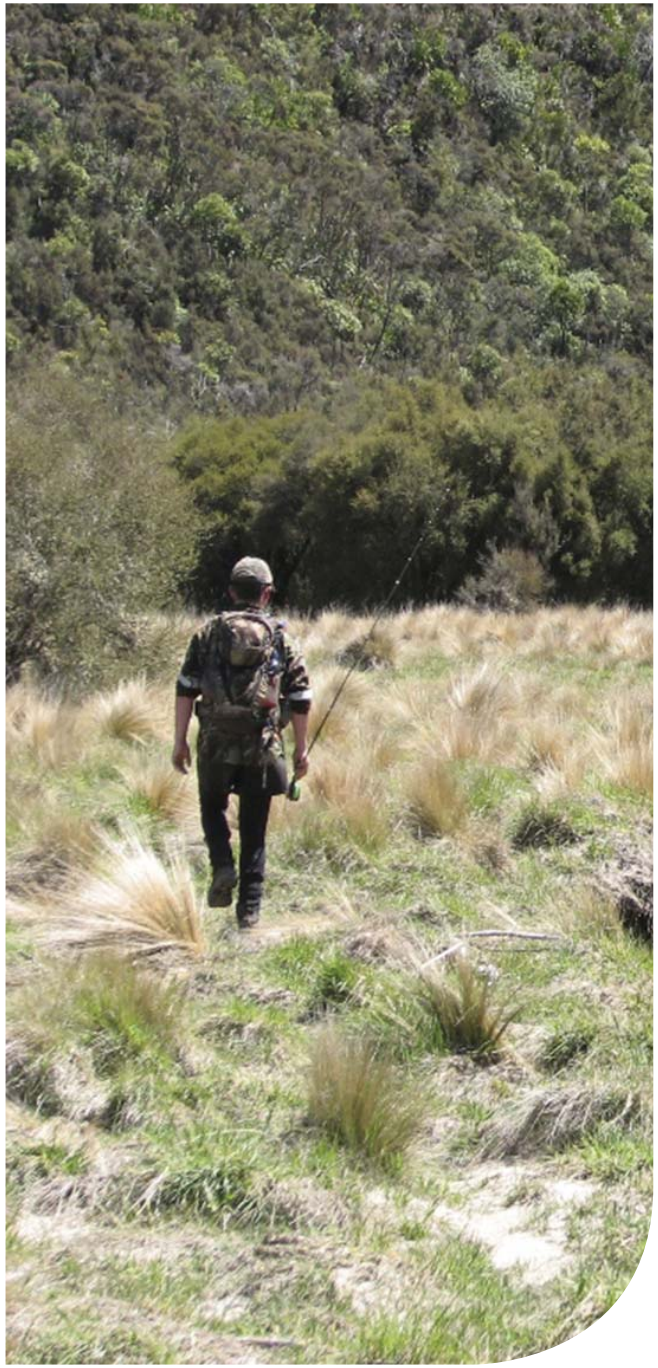

Courtesy of Fish and Game

Managing the upper Mohaka: other influences

A healthy Mohaka River ideally needs a “mountains to sea” approach, built on community values for the whole river. This Taharua and Upper Mohaka Draft Strategy primarily focuses on addressing an existing issue of concern. However it contributes to this bigger goal by:

Addressing risks from other sub-catchments. The neighbouring Ripia and Waipunga rivers could contribute to declines of Mohaka water quality and ecology. Council will proactively assess and, if necessary, address risks in consultation with stakeholders to avoid a repeat of similar issues elsewhere. Council now has a total Mohaka nutrient model that can be used to examine potential land use impacts on water quality in conjunction with water quality monitoring. The model can be applied to the neighbouring Ripia and Waipunga catchments.

Coordinating future management with Maori. Ngati Pahauwera have an agreed Treaty Settlement with the Crown on the lower Mohaka. Crown negotiations with Ngati Hineuru and Mana Ahuriri are underway in the mid Mohaka. Council will continue to work with iwi, including Ngati Tuwharetoa (upper Mohaka) on how the whole river should be managed.

The new Regional Planning Committee, with equal numbers of Regional Councillors and representatives of Treaty of Waitangi claimant groups, will assist whole of Mohaka catchment management.

A healthy Mohaka river ideally needs a ‘mountains to sea’ approach. Council will continue to work with iwi on how the whole river should be managed.

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Courtesy of Mark Mahoney

What do you think?

How reasonable are the proposed water quality limits and timeframes to meet them?

Why do you think that?

What are your thoughts about the actions proposed in the draft strategy?

Are there any other actions you would like to see?

Have your say

You can send your thoughts to us by:

Feedback form in this draft Strategy
Please attach a separate sheets as needed.

Write to us at:
Hawke's Bay Regional Council
Private Bag 6006, Napier 4142

Online feedback form
on the Taharua webpage at www.hbrc.govt.nz

email: chris.reed@hbrc.govt.nz

Please include your name, address and daytime phone number on any comments or correspondence.

Your comments will be received until 9am on Monday 22 August 2011.

Please note:

Your comments will be summarised and reported to Councillors in September 2011. There will not be an opportunity to be heard in respect of your comments at this time.

The comments will assist Council to prepare a plan change. Public notification of a plan change to the Regional Resource Management Plan at the end of 2011 will be as required by the Resource Management Act.

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Please have your say. Any constructive feedback would be very welcome:

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