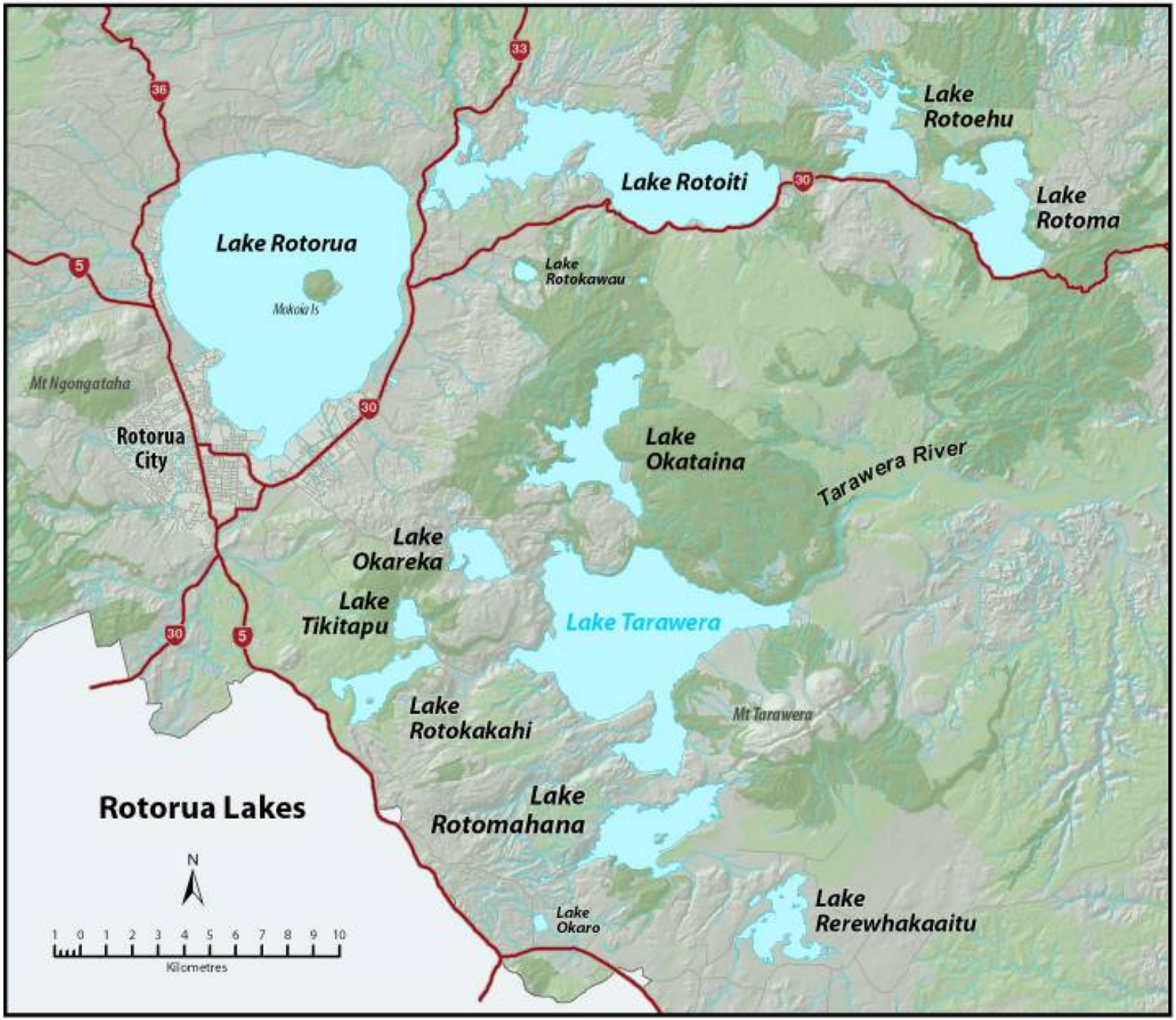
National Policy Statement for Freshwater Management


Rotorua Lakes
Lake Rotoehu
Lake Rotoiti
Lake Rotoma
Lake Rotorua
Lake Rotokawau
Mokoia Is
Mt Ngongataha
Rotorua City
Lake Okataina
Tarawera River
Lake Okareka
Lake Tikitapu
Lake Tarawera
Lake Rotokakahi
Mt Tarawera
Lake Rotomahana
Lake Okaro
Lake Rerewhakaaitu
N
1 0 1 2 3 4 5 6 7 8 9 10
Kilometres

The Lakes are the Source of our

economic,

social,

cultural

and

environmental wellbeing


Classic Wooden Boats Regatta
Lake Rotoiti


Lead for Classic Boat Parade

Threats to our lakes

Nutrients

Algal Blooms

Weeds

Hornwort


KAYAK USERS
Please pay before
using the pools
£5.00


ALGAE
WARNING SIGN
Low Risk
Medium Risk
Unsafe
ROTORUA DISTRICT COUNCIL
HEALTH WARNING
BLUE-GREEN ALGAE
DRINKING
SWIMMING
WATER CONTACT SPORTS

4 — Rotorua Review, Tuesday, August 5 2003

ROTORUA REVIEW

Adding cobalt proven solution

Dear Sir,

Over 60 years ago, cobalt was found to be deficient on Rotorua district soils.

The solution was the addition of cobalt to the fertiliser programme. To my knowledge, no one has accused farmers of mass medication of milk.

Likewise iodine was added to salt to counter goitre. No one accuses the manufacturer of mass

LETTERS email:rotorua.editor@icn.co.nz

The *Rotorua Review* has been inundated with phone calls and letters following last week's Review Point which questioned whether all matters had been considered in relation to the quality of lakes in the Rotorua district. A selection is published below.

Details, some facts on lake water problems

Dear Sir,

Regarding problems with lakes water quality – som

•The symptoms toxicity include itching and irritat membranes, sto ing, diarrhoea, ing, fatigue, c cular failure, rapid death d

Prolonged trations ar cancer.

living cyanobacterial cells which clearly

All the more reason for all parties with a vested interest in the lakes to present a united front and work together to rectify what has been branded a "looming catastrophe".

There has been anger that the Government is perceived to have shunned Lake Rotoiti's condition in favour of sanctioning a partnership between the Taupo District Council, Environment Waikato and Ngati

Lake damage worse than feared

By HANNAH STONE in Rotorua

PROLONGED abuse may have damaged Rotorua's two main lakes more than anyone first suspected, LakesWater Quality Society chairman

'Catastrophe' looming at Lake Rotoiti

By HANNAH STONE in ROTORUA

LAKE Rotoiti's ill health may eventually kill Rotorua's reputation as a trout-fishing mecca, new scientific evidence has revealed.

At a public meeting held last night by the Rotorua Branch of the Royal Society and the LakesWater Quality Society, it was revealed the years of excessive nutrients flowing into the lake could cause it to become anoxic, meaning all oxygen is depleted from the water.

More than 200 people turned out to the public meeting, held to reveal research on the Rotorua Lakes commissioned by Environment Bay of Plenty and the LakesWater Quality Society.

Lakes Management and Restoration chairman Professor David Hamilton said the layer of oxygenated water within Lake Rotoiti was slowly decreasing and could eventually become temporarily anoxic killing all oxygen-dependent life, including trout.

At present Lake Rotoiti's oxygenated level sits at about 30 metres which is less than half the deepest point in the lake.

"The nutrients are fuelling the algae growth.

"As the algae decays the layer moves up which decreases the oxygen layer on top," Professor Hamilton said.

"It probably can't come up much higher than it is.

"If it does [come up] much more it has the potential to make the whole lake go anoxic."

Although the anoxic period would be temporary it would still severely affect the lake, he said.

"That is the biggest danger for Rotoiti at the moment."

University of Waikato PhD student Eloise Ryan said Lake Rotoiti had seen a substantial loss of deep-living algae which trout would normally feed off.

The good form of algae found in most lakes, known as zooplankton, is normally found in deep waters in an area called the deep chorophyll maximum (DCM).

The blue-green algae bloom at Lake Rotoiti had affected the DCM leaving trout to swim only in the oxygenated area.

"This will be detrimental to fisheries in the area.

"Rotoiti has only the top layer and it makes the fish move up.

"Trout don't like the warm water," she said.

Rotoiti resident Sally Brock said calling the current lakes situation catastrophic was an understatement.

"There is a possibility of Rotoiti becoming anoxic and losing all life in it . . . the ramifications of that are huge.

"If Rotoiti is the first of the lakes to go like this, which one will be next?" Mrs Brock said.

"This needs to be fixed pretty quickly."

Perturbed residents at the meeting were desperate to find a remedy to cure Rotorua's lakes before it was too late.

After more than 40 years of recorded scientific data on the ill-health of Lake Rotoiti, it would take at least the same amount of time before the lake could be rehabilitated back to its former health, Professor Hamilton said.

Remedies including dredging the lake bed and filtration systems were suggested by the residents.

But Professor Hamilton said filtration would not work on a lake the size of Rotoiti.

"The blue-green algae under ultimate conditions like Lake Rotoiti can double within a day to two days. For it to work you would be filtering more than a million cubic metres per day," he said.

Rotorua MP Steve Chadwick said the scientific evidence was very concerning.

"It paints a picture that we all need to sit up and take notice of. It is all about knowing what each of us has to do, us as well, and we need more meetings like this one," Mrs Chadwick said.

The meeting would also cover the influences of the growth and distribution of algae and information on nutrient flows into the lakes will be updated. The meeting, which will be open to the public, is at the Forest Research Institute on Sala St at 7.30pm.

DEATH NOTICES

Full details — P15

BRIEFLY

Body in river

A Blenheim man whose body was found in Heathcote River in Christchurch on Wednesday could have been in the river for up to a week, police said yesterday. Detective Senior Sergeant Malcolm Johnston said a team of 15 detectives was investigating the death of 38-year-old Shane Craig Bullen.

Missing scouts found

Five Wellington teenage Venturer scouts reported missing on Sunda the Tararua Range in the Lower North Island were found yesterd The two girls and three boys, a and 18, failed to meet their gro leader as planned, but made yesterday by radio, saying th had taken longer than expe that the group had decided overnight.

ong, lonely wal

man, missing overnig Nainuiomata, Lower H returned home. Serge Kennedy, of the polic communications ce Broughton, 52, had way home yesterd on Sunday aftern muddy and hung unhurt," Mr Ken was launched Broughton wh from an inten bush.

Noisy p

Animal rig confronte protest Resear yester guard 43 pl ma fen pr g

Yours etc,
J.R. Cole

Yours
Robin Ford
Councillor, Bay of Plen

D Robey
Lake Rotoiti

doomed?

WE ARE ALL RESPONSIBLE FOR THIS DISASTER

- *Farmers and other land users*
- *Land owners*
- *Lakeside Residents*
- *Local and central Government*
- *Legacy Pollution*

Aerial topdressing

Stock in the water

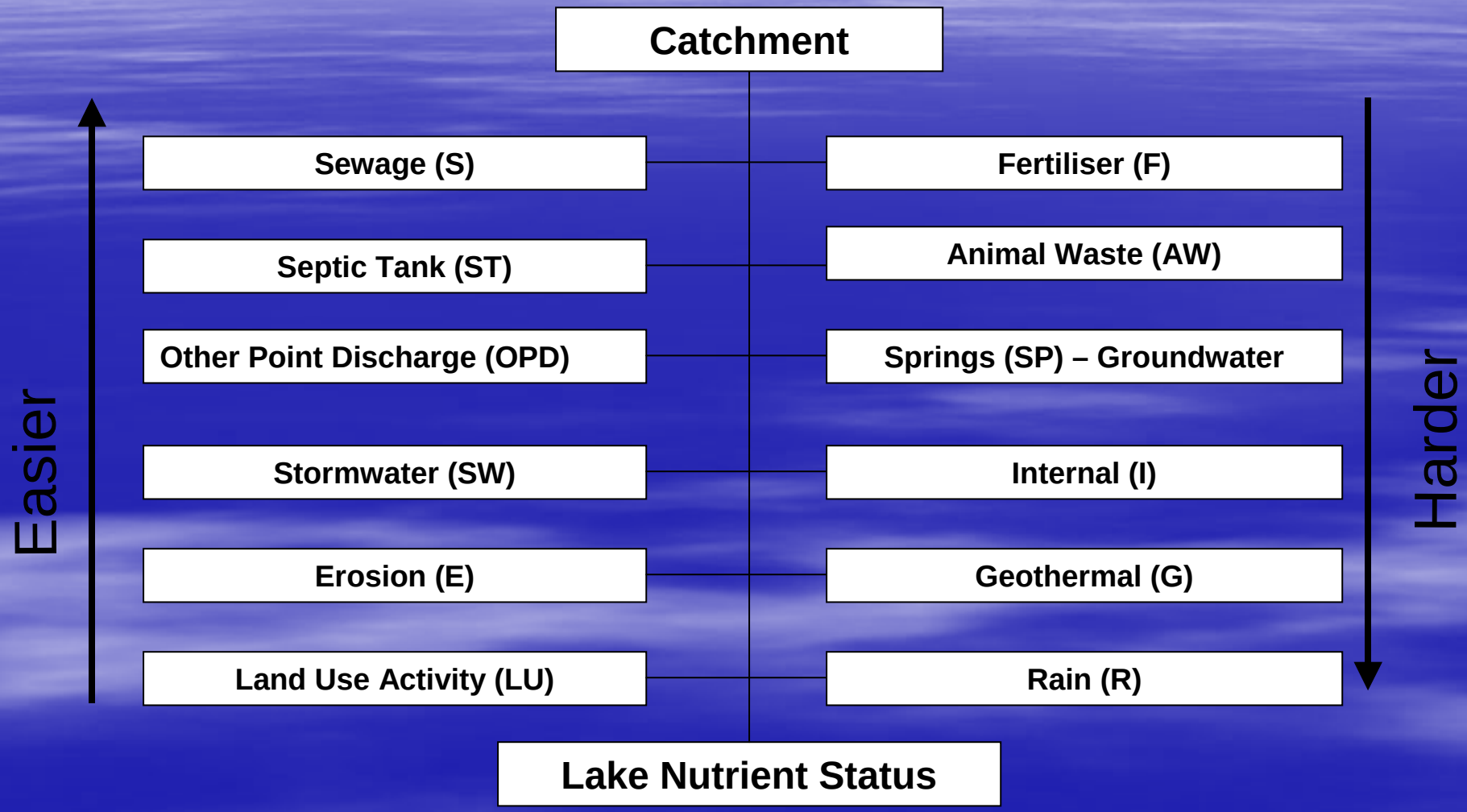
Land owners by inappropriate land management

What causes the problems?

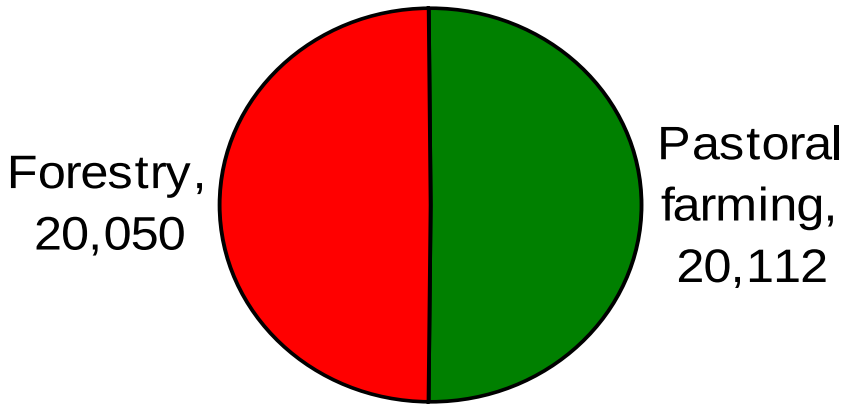
- *Inflows of nutrients and organic matter*
- *Leading to excessive productivity*
- *Leading to excessive organic production*
- *Leading to deoxygenation of the hypolimnion in the warmer months*
- *Leading to nutrient release from the sediments*
- *Leading to cyanobacterial blooms*

Nutrient sources

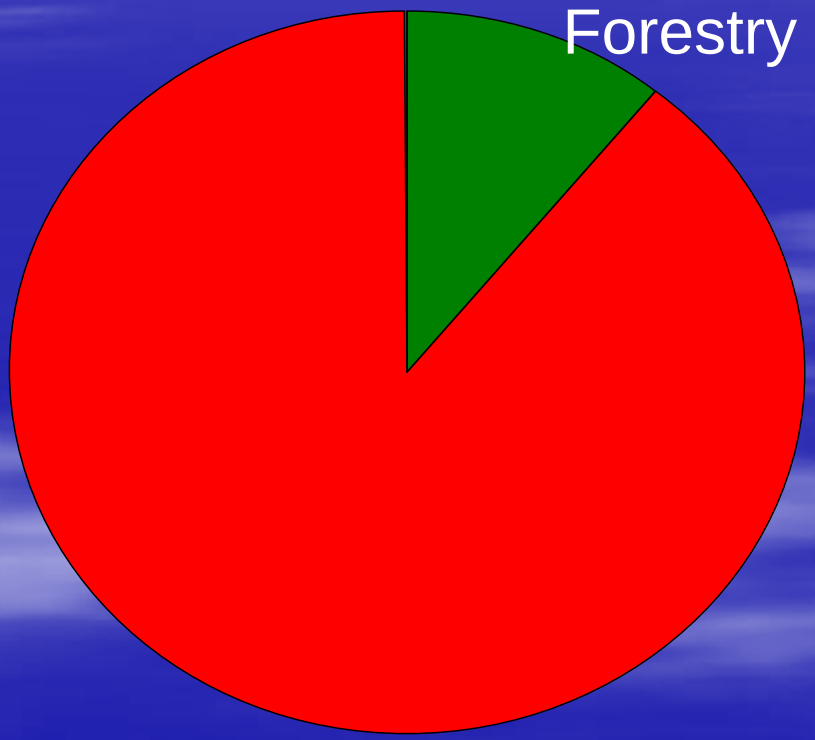
The Cause – too much nutrient



Forestry and Pastoral Farming in the Rotorua Catchment



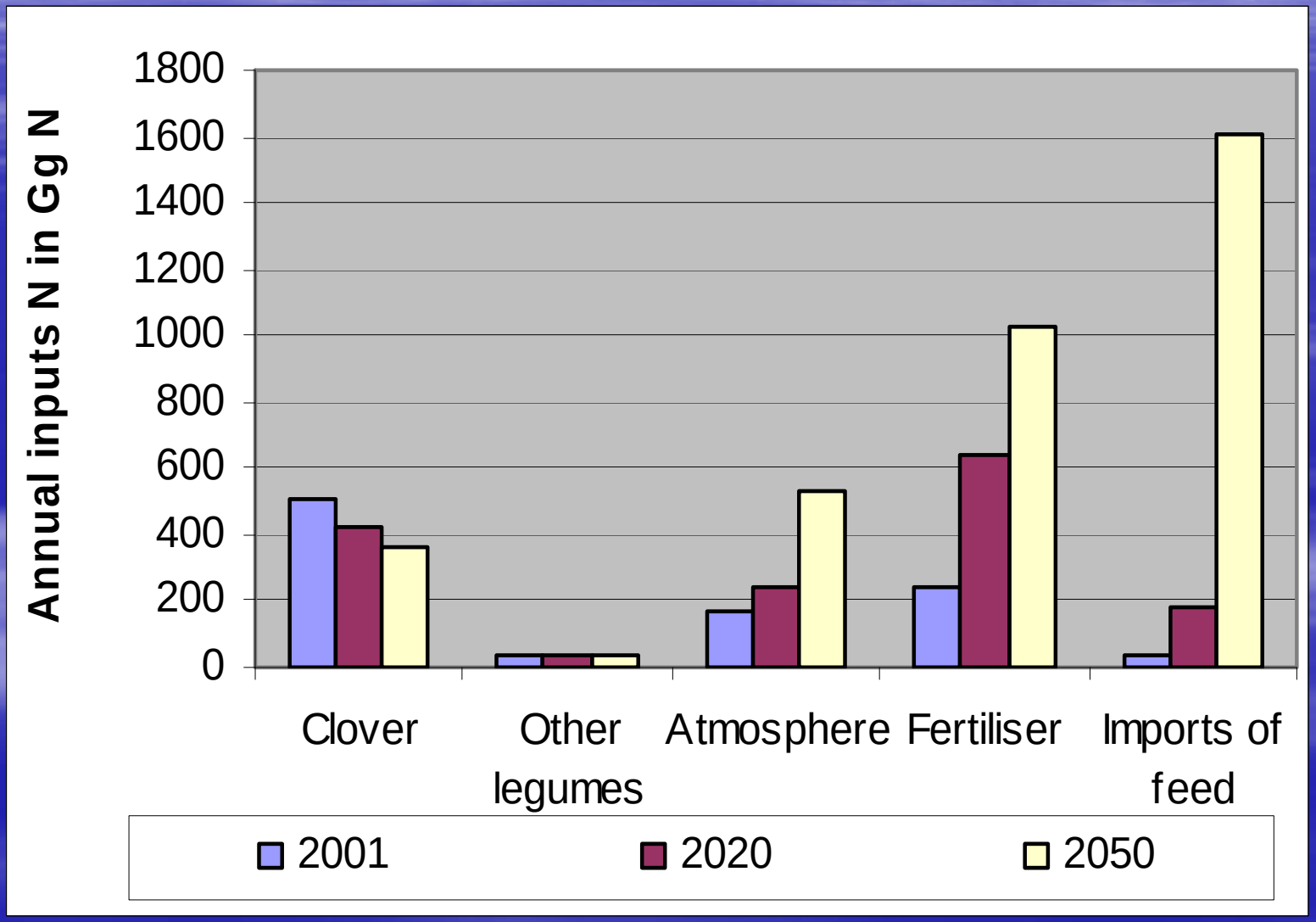
Forestry and Pastoral Farming Nitrogen Load in the Rotorua



Research by Baisden, Parfitt, Mackay and Schipper, 2006

- *The National N Budget in 2020 and 2050 after 3% annual production growth, with implications for sustainability*

Annual inputs of N for New Zealand in Gg N (1 Gg = 1000 tonnes)



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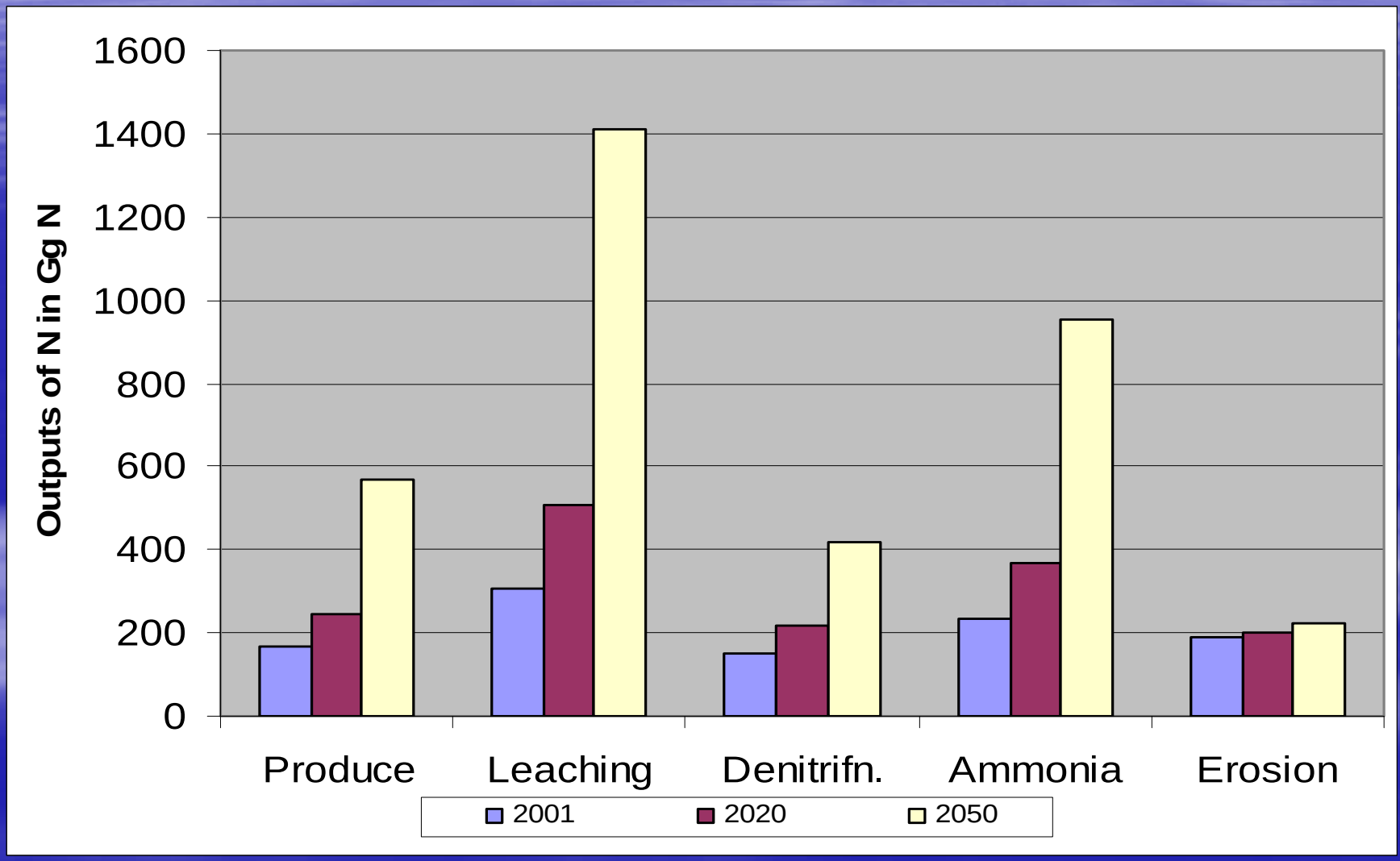


Lake Rotorua

- *NPS, RPS and District Plan processes*
- *Time to achieve action*
- *Political influence – Federated Farmers*

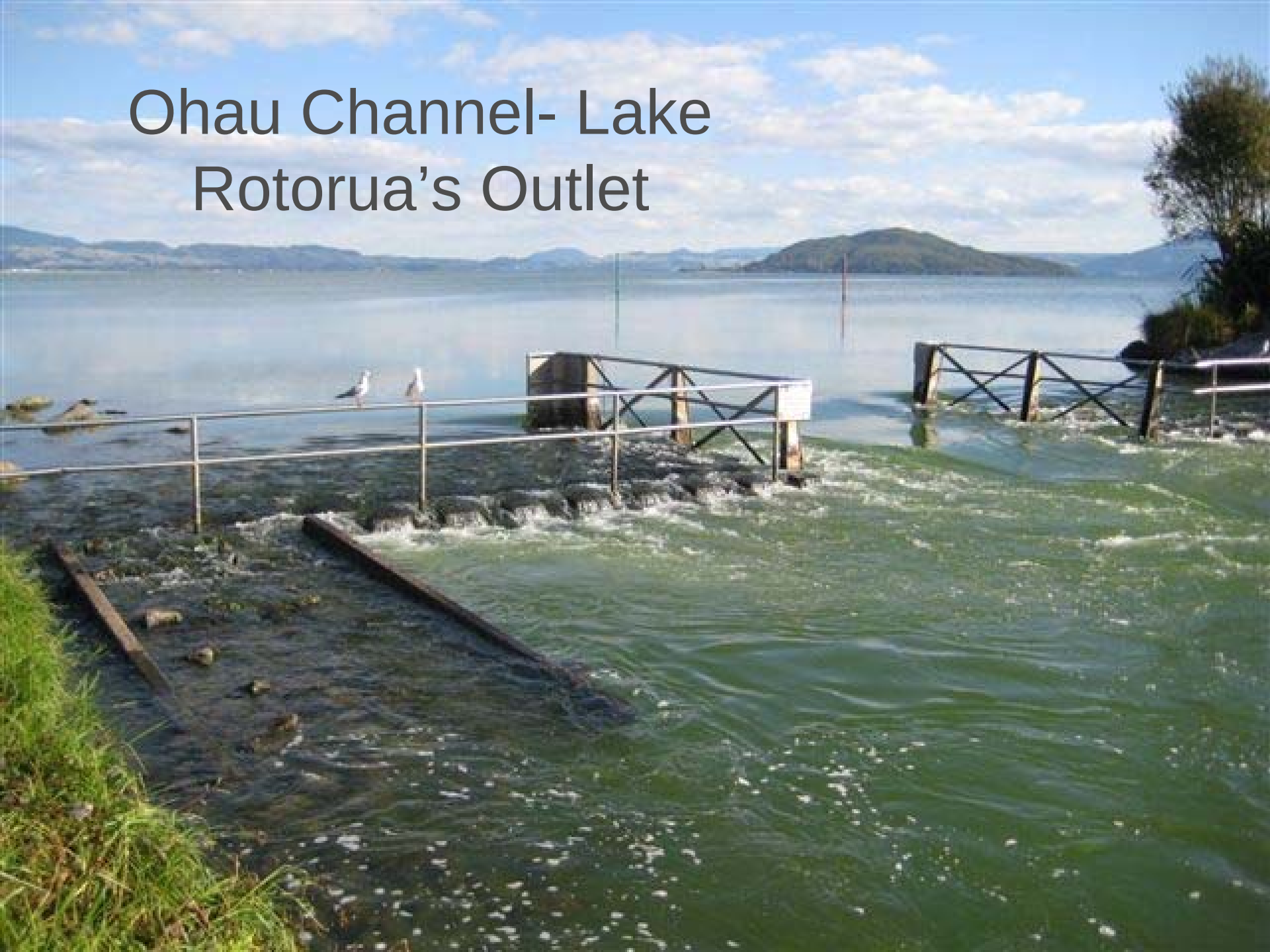
Current Lake Rotorua Plan

- 240 years to remediate
- Catchment nutrient reductions – voluntary only
- Negative economic, cultural, health and environmental influences
- Serious impacts on downstream communities
  - Lake Rotoiti
  - Maketu
  - Kaituna River
- Politically very difficult to achieve at District and Regional level
- Needs strong overview

Diversion Wall -

Lake Rotorua diverted to the Kiatuna River

Ohau Channel- Lake Rotorua's Outlet



Nutrient Sensitive Zones

- Our most icon waterways need National protection in the NPS
- Difuse polution

The draft NPS is gravely deficient

- It does not recognise
  - that there is a problem right now
  - the major cause of water pollution comes from intensive farming

It fails to

- set deadlines for fixing pollution
  - require values to be assessed and taken into account
  - provide a way to deal with degraded waters
  - recognise the need to facilitate land use change