Lake Rotorua

WAI ORA MO A MAATAU MOKOPUNA

2018 Stormwater Conference

BAY OF PLENTY REGIONAL COUNCIL TOI MOANA

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Overview

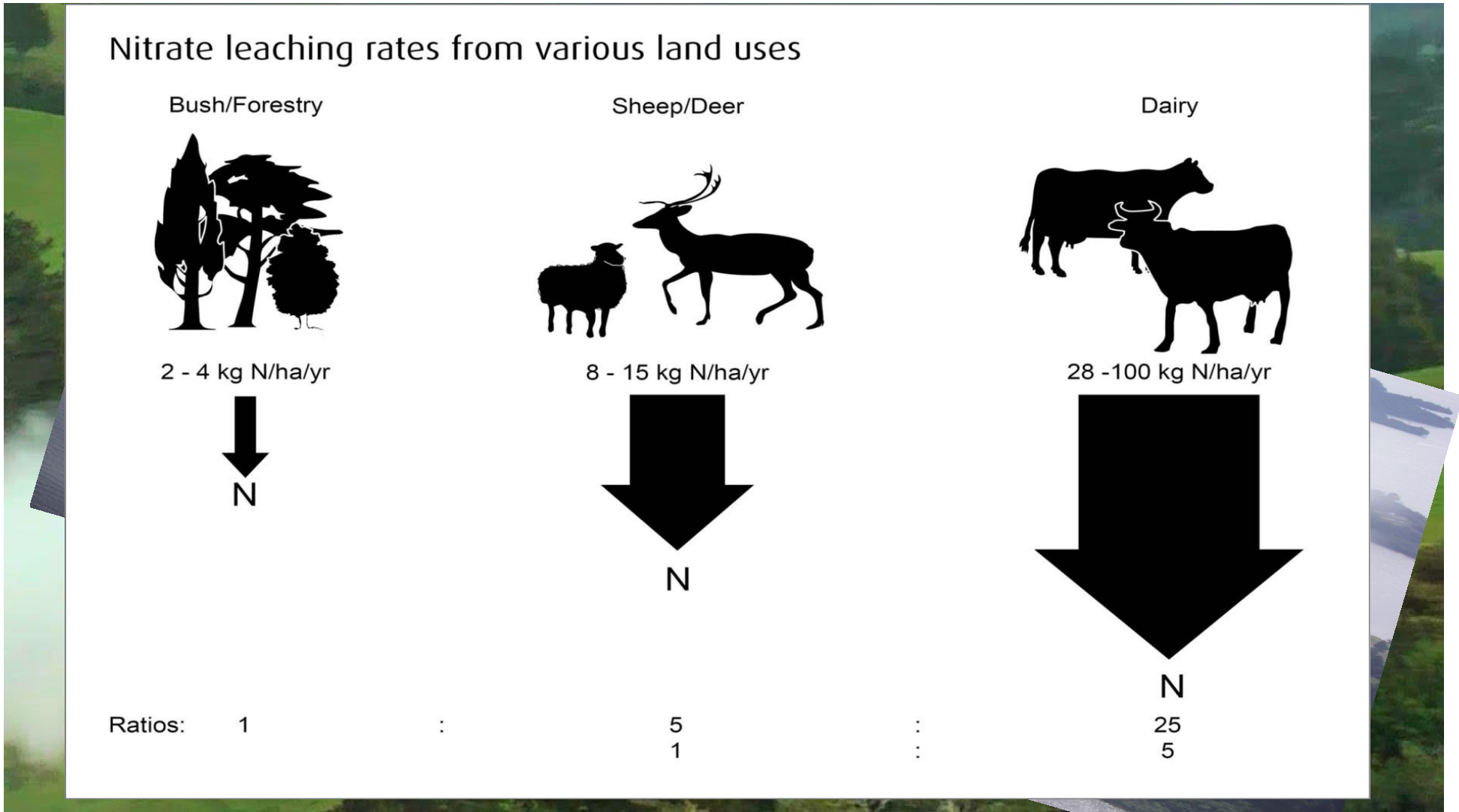
What is the problem?

What is being done?

2004: Hannahs Bay

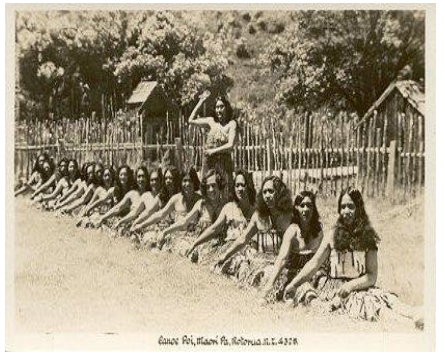
March 1975:
Rotorua Daily Post

Who contributes?



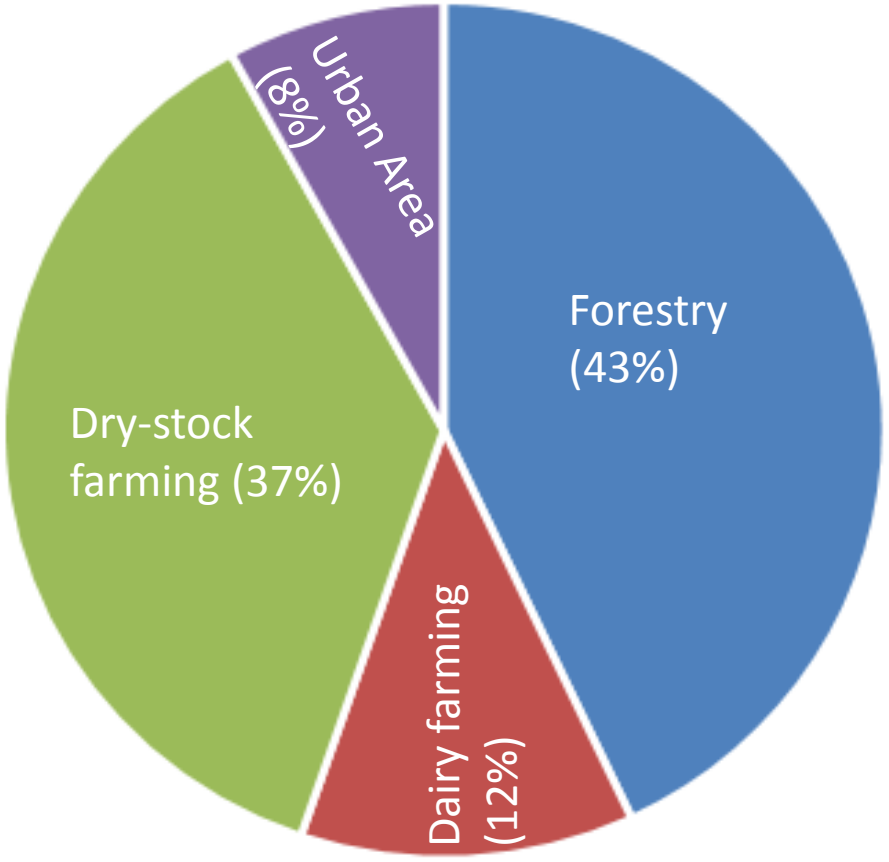
Strategy for Rotorua lakes:

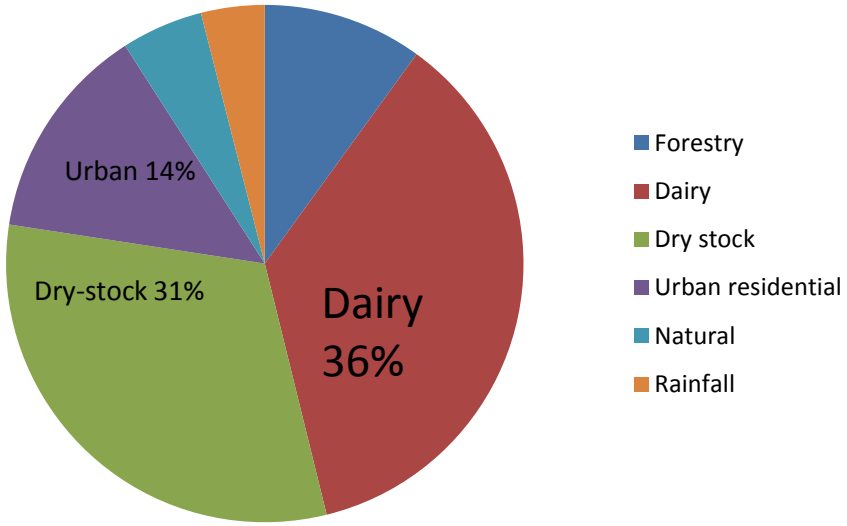
- preserved and protected
- present and future generations
- recognise and provide for the Te Arawa relationship
- ***BOPRC-RLC-TALT***



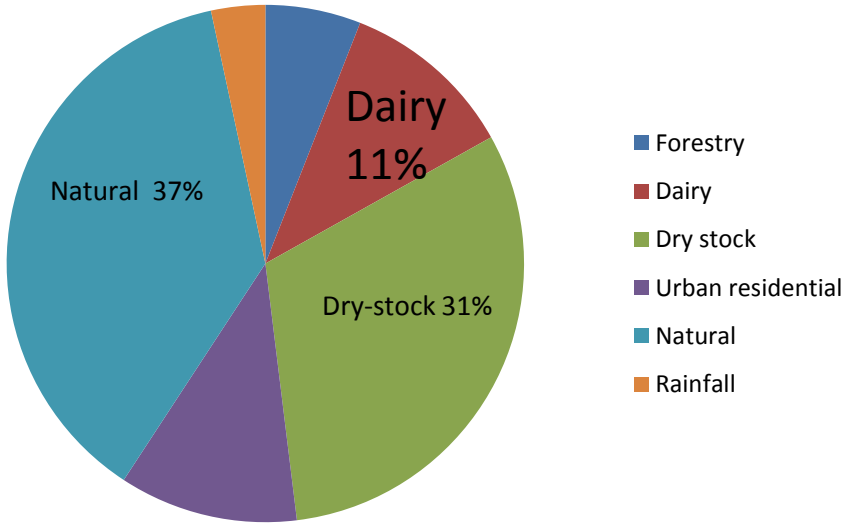
What's the problem?

- Lake Rotorua – 8,085 ha
- Surrounding groundwater catchment – 53,789 ha





Nitrogen



Phosphorus

Phosphorus vs Nitrogen

Lake Rotorua Inputs

	Nitrogen inputs t/yr	% of nitrogen inputs	Phosphorus input t/yr	% of phosphorus input
Forest and bush	70.5	9	2.26	6
Pasture	580	74	17.49	44
Lifestyle and urban	61	8	4.32	11
Springs and geothermal input	42	5	14.4	36
Rainfall	29.2	4	1.33	3
Sediment releases	360	NA	36	NA

Back to the future

- To solve the problem the Regional Council aim to take Lake Rotorua back to the 1960s – the good times

- The problem is that the nutrients from the 1960s haven't reached the lake yet – there is more N … and P to come …

…re

- In the 1960s the Trophic L… a was about 4.2.
- TLI is a single number com… and chlorophyll-a (algal biomass).
- The TLI in 2001 -2004 was… ms were a regular occurrence.

Inputs and Targets

- Nitrogen 755 tonnes
- Phosphorus 50 tonnes

- Research indicates a sustainable nutrient load of:
- 435 tonnes Nitrogen
- 33.7 – 38.7 tonnes Phosphorus

} TLI 4.2

- N reduction = 42%
- P reduction = 30%

How are we doing?

Ohau wall: Rotoiti protection as Rotorua improves

- By adding Aluminium Sulphate (alum) to streams running into the lake Phosphorus in the stream flow flocculates and

Lake Rotorua Nutrient Strategy

- Long-term Land-use Change
- Medium-term Phosphorus Locking
- Immediate Ohau Channel Diversion Wall

Long-term Land-use change

- Plan Change 10
- Focus on Nitrogen
- Consequential reduction in P
- Critical source P actions

- Changing or managing the existing land-use is the only long-term sustainable option.

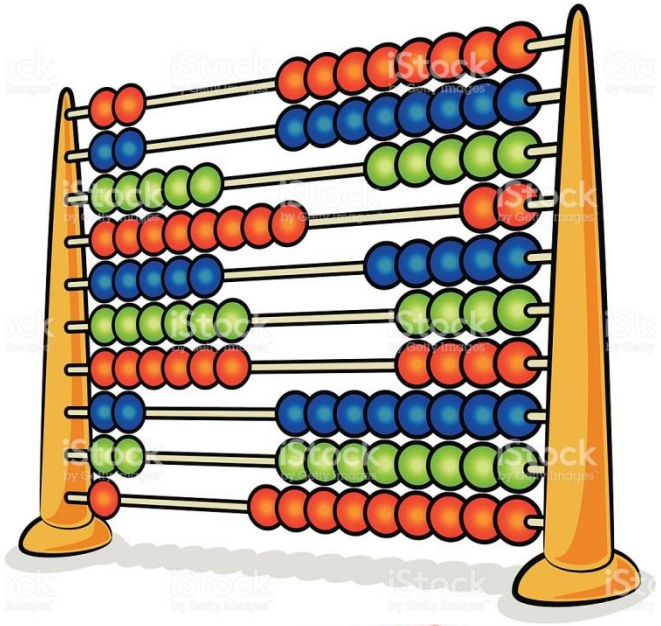
Plan Change 10

- Allocation of N outflow to each property in the catchment
- (Not just dairy farms)

- Managed reduction of N to meet the allocation by 2032

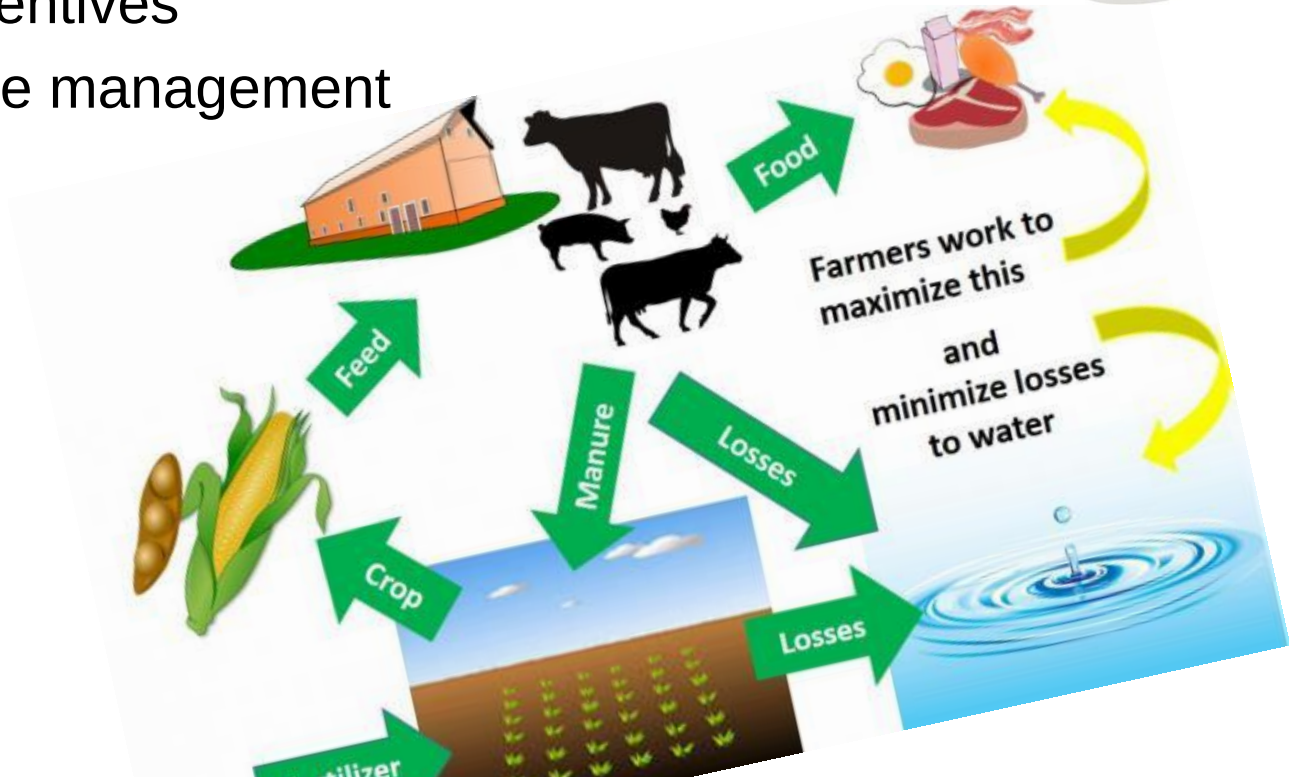
- Incentive fund to encourage change and innovation to meet target ($40M)

PC10 targets

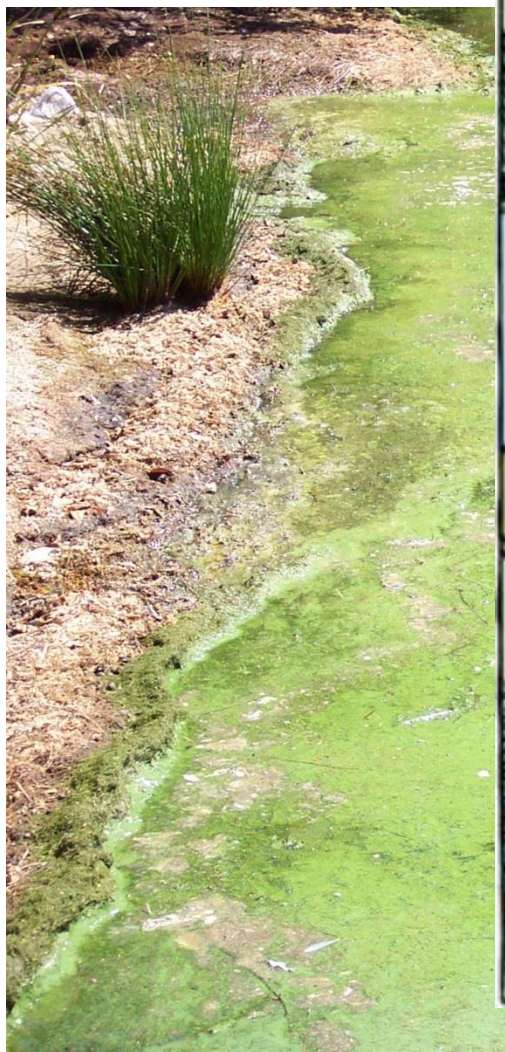


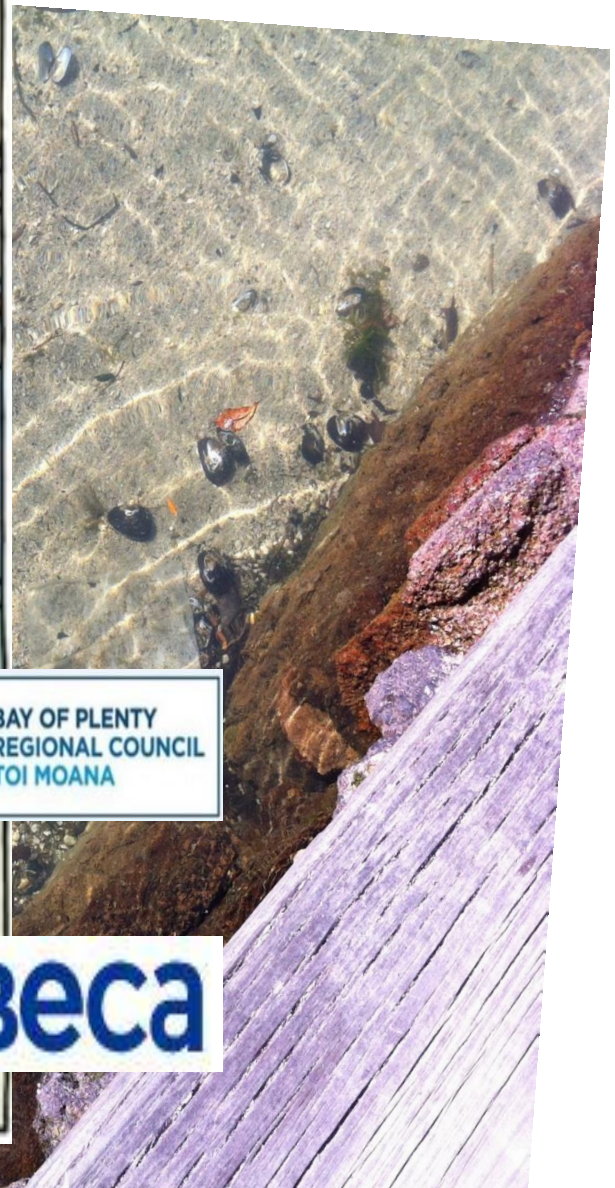
- Reduction of 320 tN/yr

- -140 tN by land-use change
- -50 tN through engineering solutions
- -100 tN through incentives
- -30 tN through gorse management



Easy!





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