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New Zealand Agricultural &
Resource Economics Society (Inc.)

Lake Rotorua: Incentivising land use change

Sandra Barns

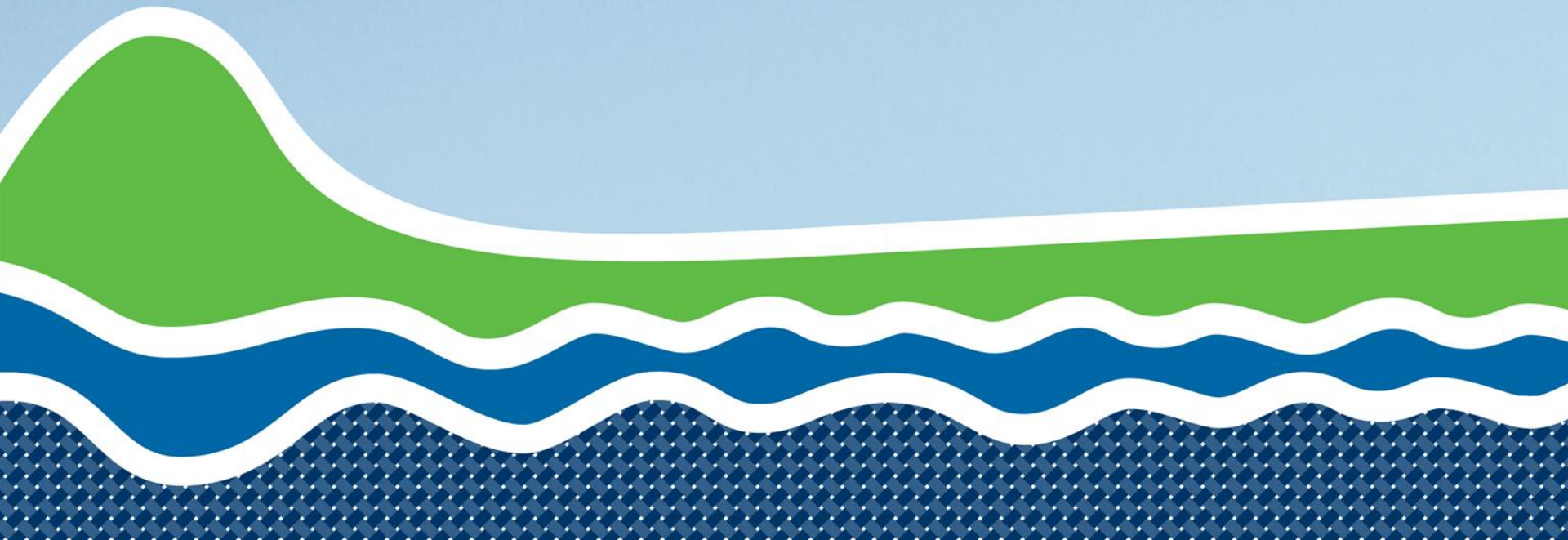
Bay of Plenty Regional Council, NZ

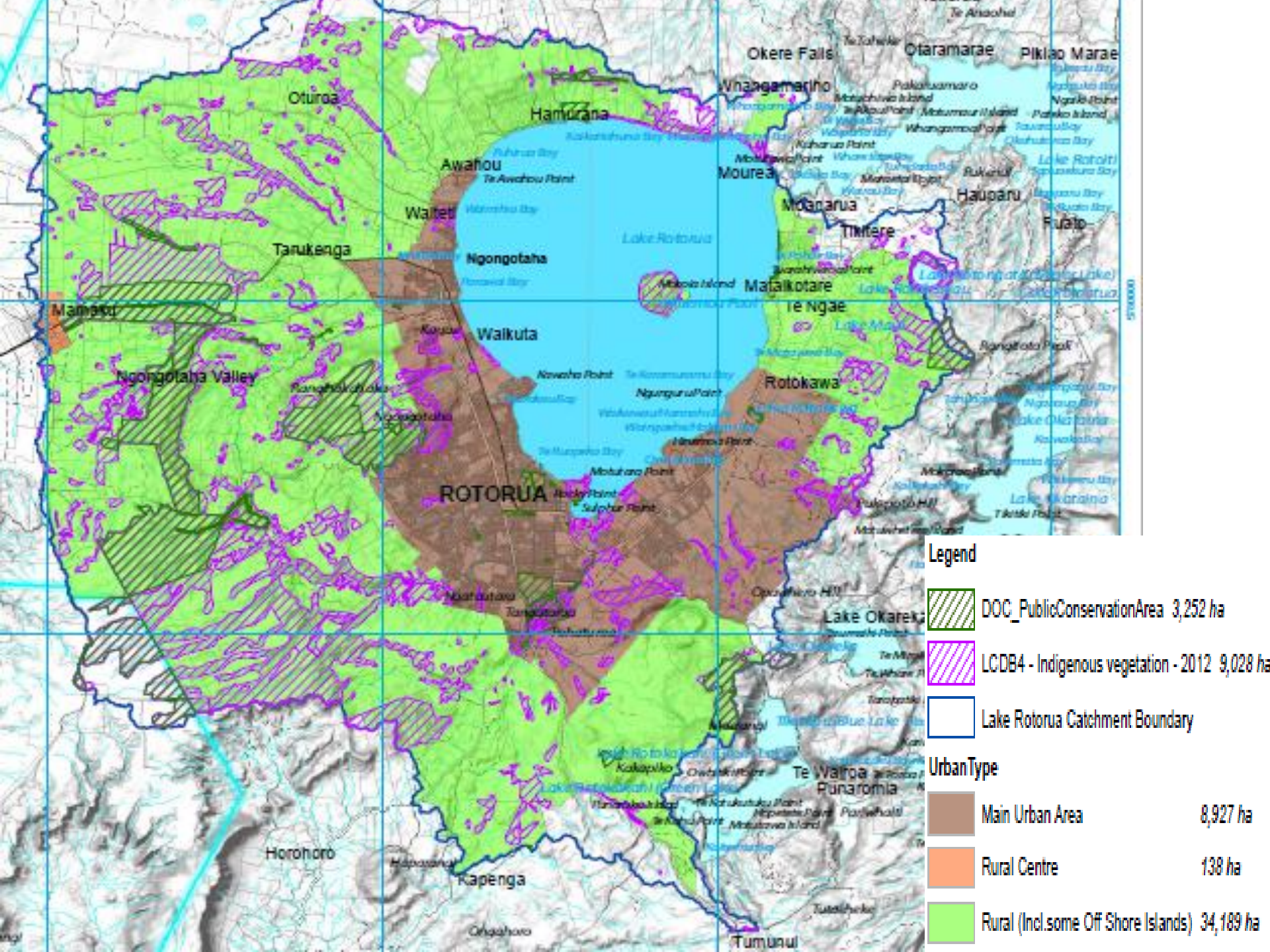
Paper presented at the 2014 NZARES Conference
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Lake Rotorua

Incentivising land use change





Rule 11

Objective: Maintain or improve water quality in the Rotorua lakes to meet Trophic Level indices

Properties >40ha benchmarked

Nitrogen capped at 2001-2004 levels

BUT:

Inflexible

Benchmarking incomplete (<40ha)

Didn't reduce nitrogen levels, but stopped increases



Rules and Incentives

RPS and Draft Rules

Proposed RPS gives specific direction

- Limit for N entering the lake = 435 tonnes
- Allocate the 435 tonne limit amongst land use activities

270 tonne reduction needed

- 70% to be achieved by 2022; 100% by 2032

Integrated framework of rules and incentives (Regional Plan change)



Rules Programme – 140 tonne reduction

2015	Farm Nutrient Plans	Plans will be put in place for every farm, setting out a practical pathway of staged nitrogen reductions.
2017	Resource consents	Farms will be consented, with a Farm Nutrient Plan as a consent condition.
2032	Nitrogen Discharge Allowances	Average of 35 kgN/ha/yr for dairy and 13 kgN/ha/yr for drystock , with adjustments made for geophysical and farm system characteristics.

Incentives Programme – 100 tonne reduction

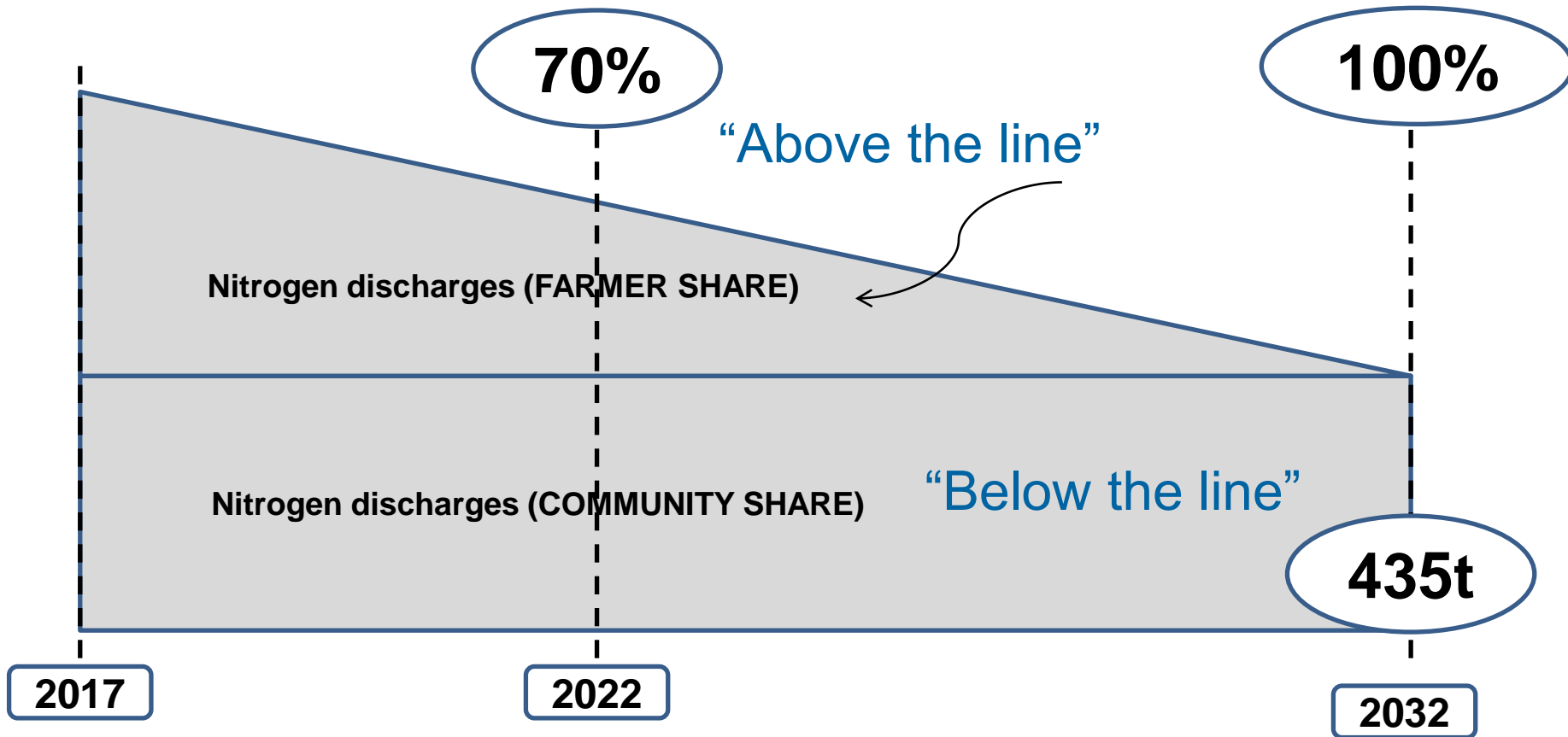
2022	Incentives fund	\$40m to remove 100 tonnes of nitrogen.
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Gorse Programme – 30 tonne reduction

2022	Gorse fund	Separate funding to remove 30 tonnes of nitrogen from gorse.
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Rules and incentives

Sharing the cost



Comparisons

	Rotorua	Taupō (2001)
Catchment size	42,000 ha	275,000 ha
Pastoral farming	52%	19%
Farming type	2/3 drystock; 1/3 dairy	Mostly drystock
Forestry	43%	23%
Undeveloped	?	56%
Iwi owned land	20%	40%
Reduction required	100t	170t
Reduction kg/ha	2.4	0.6
Redn kg/ha pastoral	4.4	3.2

Farmer challenge

Rules – “above the line”

- Drystock
 - **Drystock farms - greater ability to maintain profitability**
 - **Beyond 13kgN/ha/yr, profitability declines**
- Dairy
 - **Dairy farms - profit decline likely**
- Debt levels
- ‘Good’ farmers – perception that being penalised



Incentives challenge

Incentives - “Below the line”

- 2014 to 2022
- 100 tonnes reduction
- \$40m - central govt and regional council
 - **\$400/kgN?**
- Competition
- Policy to address shortfalls (2022)

Operational –

- Benchmarking incomplete (<40ha properties)
- Allocation method

Extent of land use change



External incentives

- Carbon farming opportunities (important for Taupō)?
 - Deals available
- Subdivision – lifestyle blocks?
 - Blocks in several titles
 - Transferrable development rights
 - Significant reductions in nutrient discharges

Other drivers – preference for better environmental outcomes?



Timelines

Rules and incentives

Incentives –

- End 2014 - Incentives entity and management team in place
- Early 2015 – Looking to purchase N reductions

Rules –

- Draft rules out for consultation
- October 2014 – Review and analysis of input
- December 2014 – Sector stakeholder input
- December 2014 – Council approves proposed rules for notification
- March 2015 – Notify proposed rules

