



# Lake Rotorua Catchment Small Block Review

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Stakeholder Advisory Group

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# Key Questions

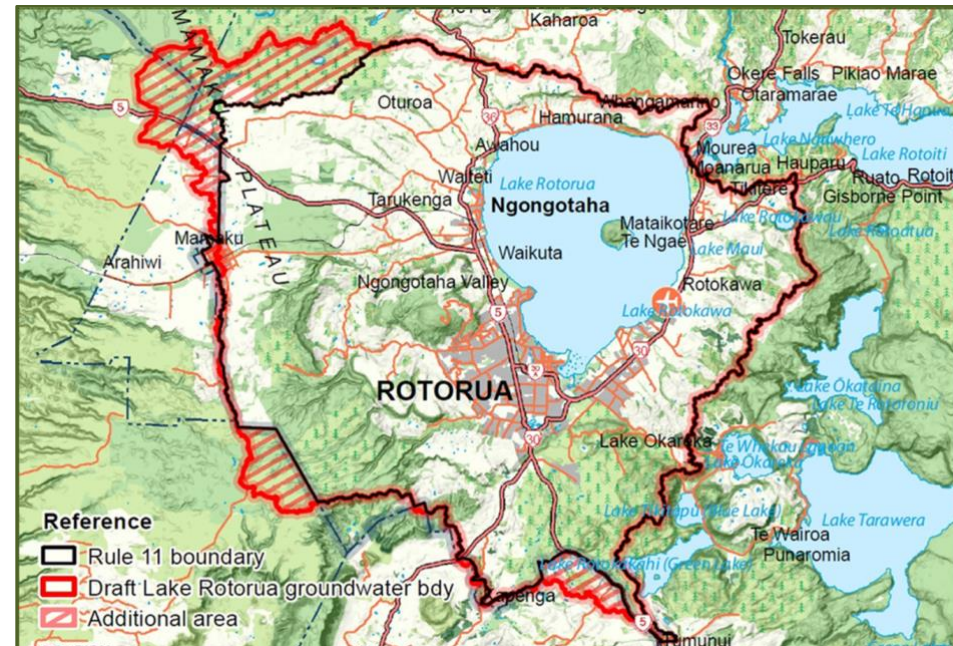
- How many Small Blocks are there?
- How many people live on Small Blocks?
- Types of land use?
  - Small Blocks as business units
- N loss from benchmarked Small Blocks?
- Impact of the draft rules on Small Block owners?



# What is a Small Block?

## Definitions used in this review:

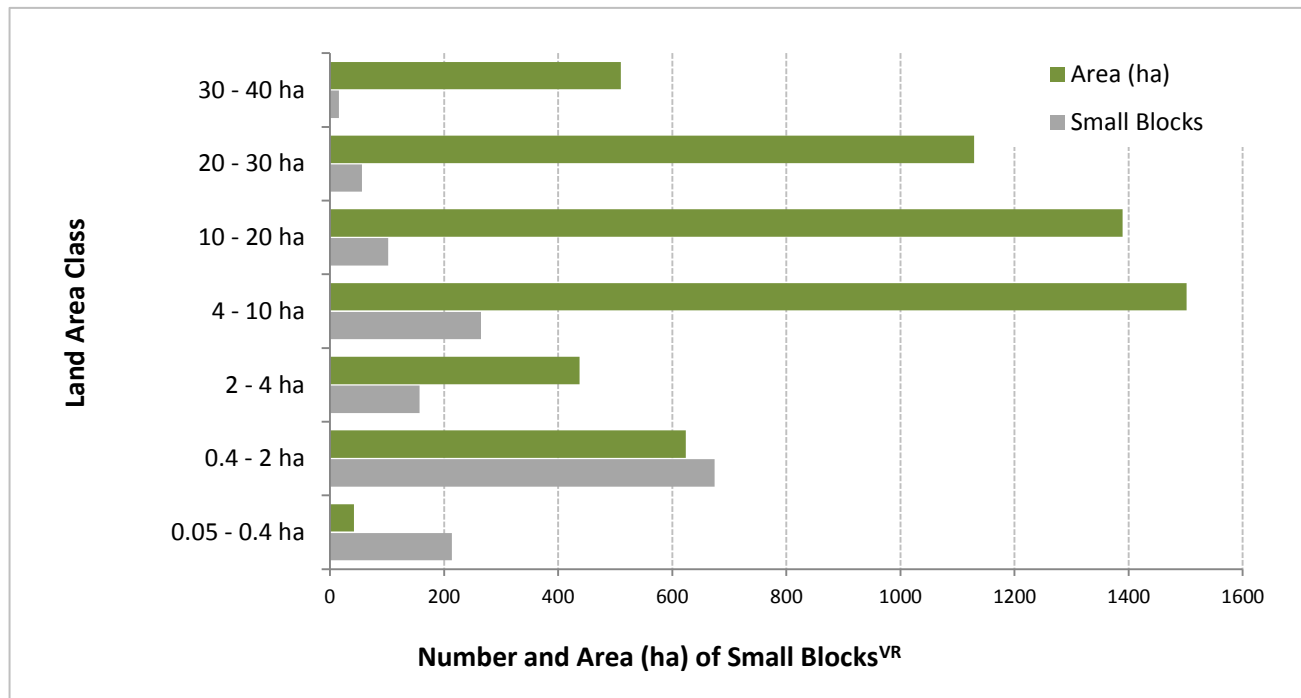
- Properties less than 40 ha defined by Valuation References
- GIS mapping of Valuation References (2014) to land use (2004)
- Lake Rotorua Groundwater Catchment boundary



# How many Small Blocks?

## Estimate 1: Count of Valuation References

- 1,484 Small Blocks in the Lake Rotorua Catchment covering 5,634 ha
- 70% are less than 4 hectares i.e. 1,045 blocks covering 1,104 ha
  - This is 18.5% of total land in the Small Block sector

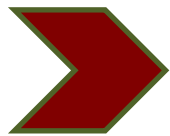


# How many Small Blocks?

## Estimate 2:

### Count of Valuation References within Benchmarked Properties

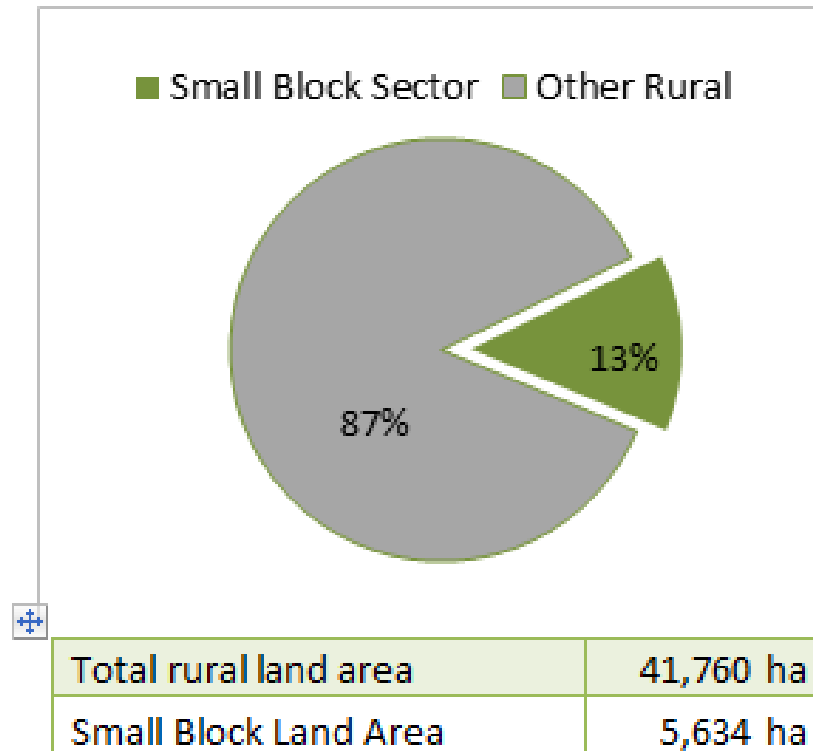
- Eight out of the **58** benchmarked properties had multiple Valuation References, operating as single property units
  - All eight were 4-40ha
- If representative, this sample implies the overall 4-40 ha property count would be 22% lower
- **1,389** assumed benchmark-equivalent properties <40 ha



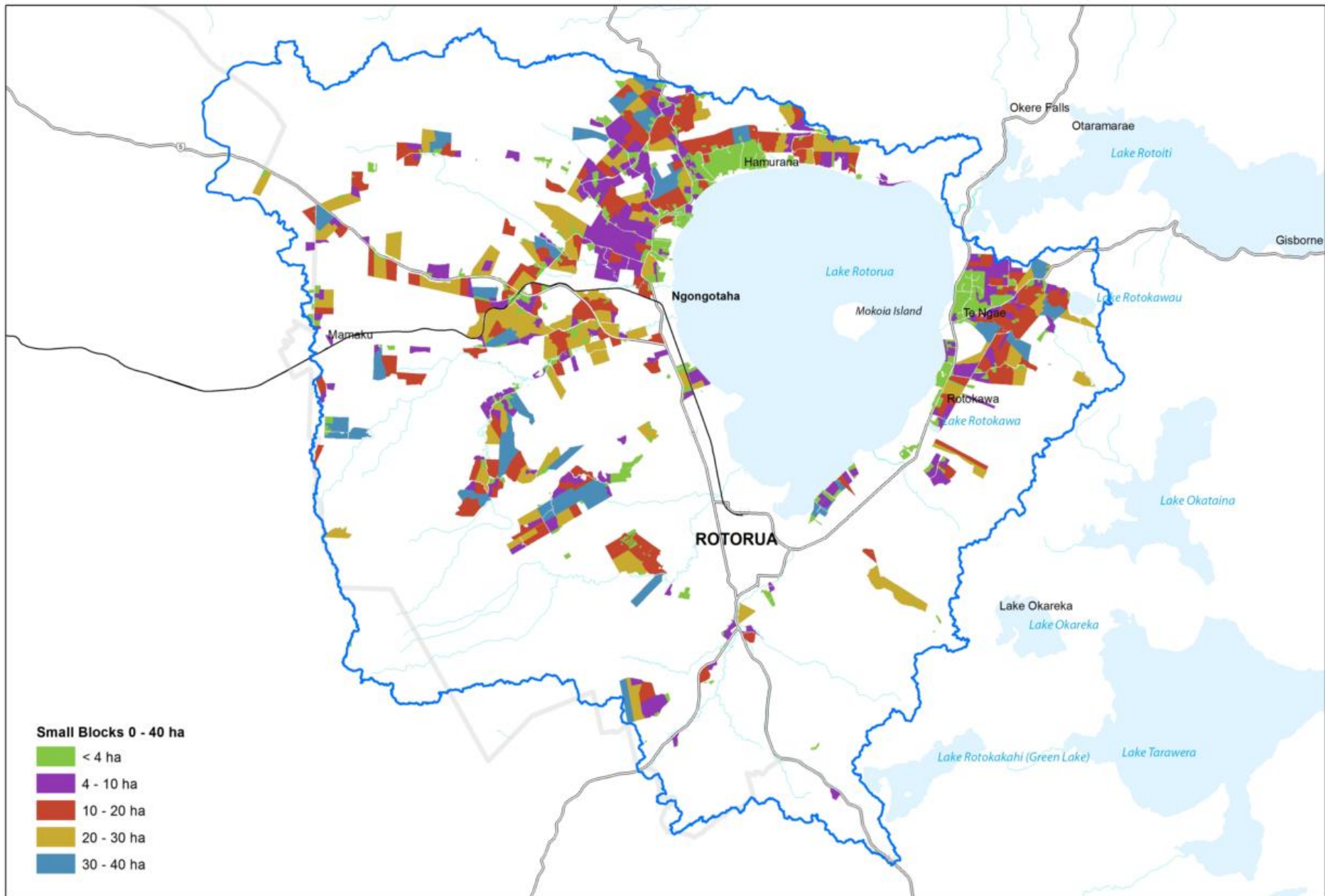
**Somewhere between 1,389 - 1,484  
Small Blocks in the catchment**

# Small Blocks as % of Catchment

- Small Block sector is 13% of rural land in the catchment



- Maori land is 11% of total Small Block area based on the Rule 11 surface catchment
- Proportionally lower than Maori land in R11 catchment (24%)



Small Blocks within the Rotorua Groundwater Boundary

# How many people live on Small Blocks?

## Estimate : Mean household size by house count

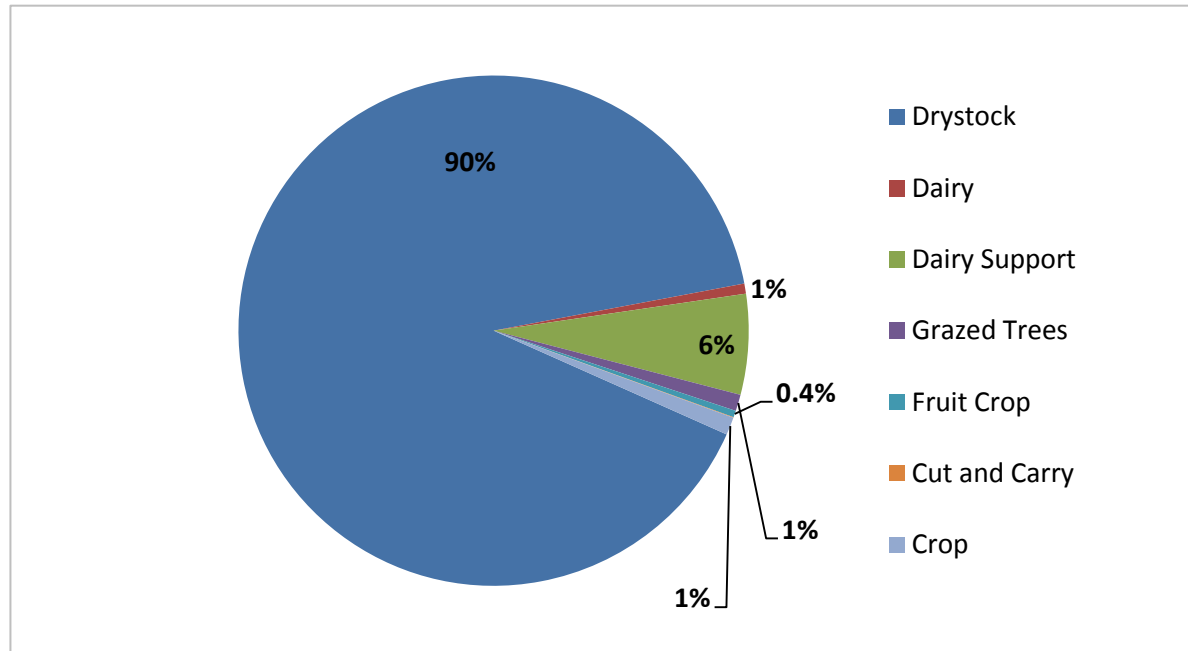
- An estimated 3,188 people or 5.7% of the total catchment population live on Small Blocks (= 1,226 houses x 2.6 people)
- 70% of people (2,215) living on Small Blocks live on properties <4 ha
- This estimate assumes 100% occupancy

Area Size Band	Total Houses	Estimated Number of People living on Small Blocks
0.05 - 0.4 ha	165	429
0.4 - 2 ha	552	1,435
2 - 4 ha	135	351
4 - 10 ha	245	637
10 - 20 ha	87	226
20 - 30 ha	32	83
30 - 40 ha	10	26
<b>Total</b>	<b>1,226</b>	<b>3,188</b>



# Land use on Small Blocks?

- 4,155 hectares of “effective” land area in the Small Block Sector, or 19% of the total catchment effective land area (22,112 ha)
- Drystock is the most common Small Block effective land use (90%, 3,755ha) followed by Dairy Support (6%, 264 ha)



## Notes:

*Effective area is the part of the property that is actively grazed and/or cultivated  
Drystock land use is from benchmarked property information i.e. under-represented here*

# Small Blocks as Business Units

- Very few Small Blocks <4ha registered for GST (2%)
- GST registration considerably higher in 10-40 ha range indicating that many owners within this area band may have more in common with commercial farmers than “lifestylers”

Farm type	< 4ha	4 - 10 ha	10 - 20 ha	20 - 40 ha	Total
Dairy		3			3
Deer			3		3
Sheep and Beef	6	21	18	30	75
Other Livestock	6	6	3		15
Other	12	9	9	6	36
Total GST	24	33	39	36	132
Total Small Blocks	1,045	265	102	72	1,484
<b>% GST Registered</b>	<b>2%</b>	<b>12%</b>	<b>38%</b>	<b>50%</b>	<b>9%</b>

# Land Valuation – Small Block Sector

- The total land value of the Small Block Sector is just under \$389 million or 49% of the total value of rural land in the catchment (\$800 million)

Area band ha	Number of Small Blocks <sup>VR</sup>	Total Area Small Blocks <sup>VR</sup> (ha)	Total Land Value (\$)	Average Land Value (\$)	Average \$ per hectare
0.05 - 0.4 ha	214	42	\$ 21,722,200	\$ 101,506	\$517,195
0.4 - 2 ha	674	624	\$ 141,341,700	\$ 209,706	\$226,509
2 - 4 ha	157	438	\$ 44,711,000	\$ 284,783	\$102,080
4 - 10 ha	265	1,501	\$ 94,321,100	\$ 355,929	\$62,839
10 - 20 ha	102	1,389	\$ 50,595,000	\$ 496,029	\$36,425
20 - 30 ha	56	1,129	\$ 26,549,000	\$ 474,089	\$23,516
30 - 40 ha	16	510	\$ 9,658,000	\$ 603,625	\$18,937
<b>Total</b>	<b>1,484</b>	<b>5,634</b>	<b>\$ 388,898,000</b>	<b>\$ 262,061</b>	<b>\$69,027</b>

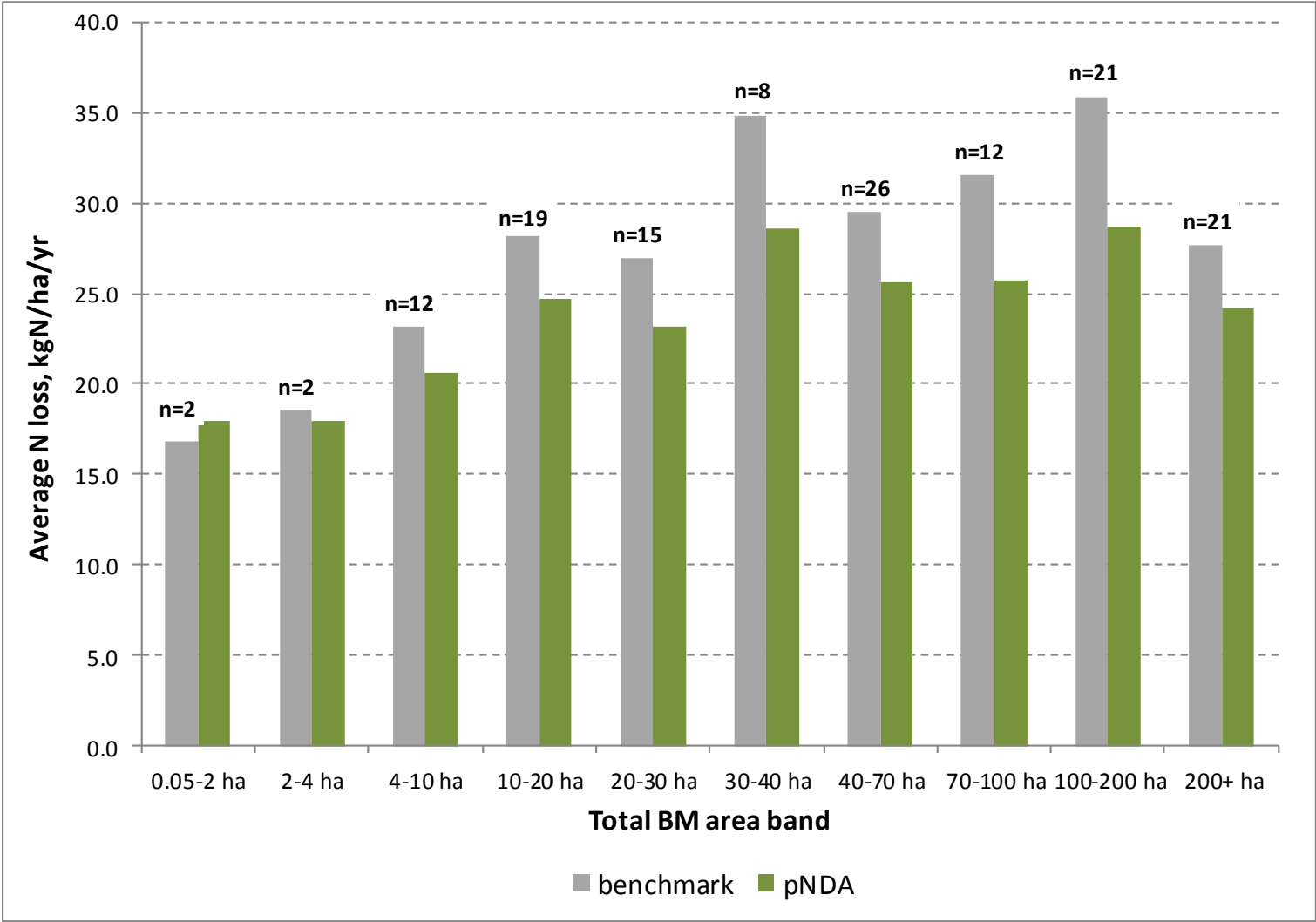
# Nitrogen Loss - Small Block Sector

## Methodology

- Identify benchmarked N loss from <40 ha properties (58)
- Apply provisional NDA formula to each benchmarked property
- Split into area bands i.e. average pNDA for each band
- Apply pNDA to the full Small Block area bands
  - = pro-rata application of "known" BMs and pNDAs to 1,484 Small Blocks
- Also test other possible pNDA and permitted combinations



# Benchmarked Drystock Farms and pNDA



# Small Block N reduction scenarios

**Scenario 1:** Simple pro-rata application of “per hectare” BM N loss and pNDA

**Scenario 2:** The same as Scenario 1, except all <10 ha = N loss of 18 kgN/ha/yr

**Scenario 3:** Benchmarked Small Blocks get corresponding pNDA; all others get default derived pNDA = 24.7 kgN/ha/yr.

**Scenario 4:** 50% of each area band = 18 kgN/ha/yr; 50% get pNDA = 24.7 kgN/ha/yr.



# Small Block N reduction scenarios results

			Scenario 1		Scenario 2		Scenario 3		Scenario 4		
			Pro-rated from actual BM/pNDA		Pro-rated from actual BM/pNDA except all <10ha @ 18 kgN/ha/y		BM land gets actual pNDA; non-BM'd land gets pNDA @ 24.7 kgN/ha/y		50% area @ 18 kgN/ha/y; 50% area gets pNDA @ 24.7 kgN/ha/y		
All units except area are kgN/ha/y				Reduction from Status Quo	sum pNDA and 18kgN	Reduction from Status Quo		Reduction from Status Quo	sum pNDA and 18kgN	Reduction from Status Quo	
Area band	Effective area ha	Status Quo N loss	sum pNDA	Reduction from Status Quo	sum pNDA and 18kgN	Reduction from Status Quo	sum pNDA	Reduction from Status Quo	sum pNDA and 18kgN	Reduction from Status Quo	
0.05-2 ha	369	6,195	6,637	-441	6,637	-441	9,097	-2,902	7,872	-1,677	
2-4 ha	312	5,778	5,614	164	5,614	164	7,657	-1,878	6,659	-881	
4-10 ha	1,120	25,925	23,141	2,784	20,165	5,760	27,383	-1,458	23,918	2,007	
10-20 ha	1,090	30,758	26,972	3,786	26,972	3,786	26,935	3,823	23,273	7,485	
20-30 ha	826	22,229	19,136	3,092	19,136	3,092	19,967	2,262	17,627	4,601	
30-40 ha	369	12,850	10,535	2,315	10,535	2,315	10,089	2,761	7,870	4,980	
<b>Total</b>	<b>4,085</b>	<b>103,735</b>	<b>92,035</b>	<b>11,700</b>	<b>89,059</b>	<b>14,676</b>	<b>101,128</b>	<b>2,607</b>	<b>87,219</b>	<b>16,516</b>	
				<b>11.3%</b>			<b>14.1%</b>			<b>2.5%</b>	<b>15.9%</b>

# Context of potential Small Block N reductions

Land use (area band)	Effective area ha	Avg BM kgN/ha/y	Avg pNDA kgN/ha/y	Reduction from BM %	% of total pastoral N reduction
Small Block, 0.05-40 ha	4,085	25.4	22.5	11.3%	4.4%
Drystock, 40+ ha	12,181	32.7	26.6	18.7%	28.3%
Dairy	5,016	100.2	64.8	35.3%	67.2%
<b>Total</b>	<b>21,282</b>	<b>47.2</b>	<b>34.8</b>	<b>26.3%</b>	<b>100.0%</b>

*Note: The estimated Small Block N reduction is based on Scenario 1*





# Key Small Block Messages

- 1,484 Small Blocks, possibly ~1,389 "properties", ~3,188 people
- 5,634 ha total area; 4155 ha "effective"
- 70% of Small Blocks <4ha, on ~18% of total Small Block sector area
- Number of Small Blocks >4 ha = 439
- Land value = \$389M (2014 rating valuation)
- 2% of Small Blocks <4ha registered for GST
- Estimated "current" N loss = 104 tN/yr, ~10% of pastoral total
- Estimated share of total pastoral N reductions (draft rules) is 4-6%

