

# Reference sheet: Dairy and drystock “sector” areas

## Lake Rotorua catchment rules project

Date: 1 October 2013

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### Purpose

This information sheet provides a definition of the “dairy” and “drystock” sectors, and identifies the broad areas in the catchment that the sectors relate to.

### NDA sector definitions

**Dairy:** 35kg N/ha/yr *includes* milking platform, fodder and effluent but *excludes* runoff (ie dairy support) and forest.

**Drystock:** 13kg N/ha/yr *includes* sheep, beef, horticulture, cropping and dairy support but *excludes* forest.

### Discussion

Regional Council recently agreed to a rules and incentives framework that included the allocation of nitrogen discharge allowances (NDAs) to the dairy sector (35 kgN/ha/yr) and the drystock sector (13 kgN/ha/yr). The framework was proposed by the Stakeholder Advisory Group and was based on an approach developed by the Primary Producers Collective.

Since the decision by Regional Council, questions have been raised about the definitions of these sectors, and what areas they actually relate to.

As agreed from the outset of the rules and incentives project, information from the 2011 ROTAN run is being used to underpin policy development. This includes estimates of nitrogen loss from different sources in the catchment (see Table 1).

Staff analyses as well as the analysis provided by the Primary Producers Collective have used this ROTAN information to support sector-based NDAs. In summary, it identifies the following areas:

**Dairy:** 5050ha based on BOPRCs 2009 dairy platform map which *includes* milking platform, fodder and effluent but *excludes* runoff (ie dairy support) and forest.

**Drystock:** 16125ha based on BOPRCs 2005 land use map which *includes* sheep, beef, horticulture, cropping and dairy support but *excludes* forest.

The NDAs originally proposed by the Primary Producers Collective relate directly to these areas, so for the dairy sector, 35kg \* 5050ha results in a total nitrogen loss of 177 tN/yr and for the drystock sector, 13kg \* 16125ha results in a total nitrogen loss of 210 tN/yr. Combined, the total dairy and drystock load would then be 386 tN/yr – a reduction of 140 tN/yr from the current pastoral load of 526 tN/yr.

The proposed NDAs were informed by, *but not based on*, the expert panel that was convened to explore possible lower limits of nitrogen losses on dairy and sheep and beef farms while maintaining farm viability.

The information provided by the expert panel indicated that a “low” nitrogen loss dairy farm could conceivably operate at around 35 kg/ha/yr, or 28 kg/ha/yr if substantial investment was made in infrastructure such as a wintering barn. This assessment was made on platform area, including fodder and effluent (runoff and bush not included).

For sheep and beef, the expert panel indicated that a “low” nitrogen loss farm might be able to operate at 13 kg/ha/yr, or 11 kg/ha/yr if half the property was converted to agro-forestry. This assessment was based on effective area (bush not included).

### **Issues**

Dairy support occurs on both dairy (as runoff) and drystock farms. Under the current framework, any runoff blocks on dairy farms would receive the drystock NDA of 13kg N/ha/yr. All dairy support on drystock farms would also come under the 13kg N/ha/yr.

Benchmarking information shows dairy support losses are, on average, 25 kgN/ha/yr. This is almost double the NDA proposed to cover the land use and may require some landowners to make large scale farm system changes.

Analysis is currently underway to determine whether dairy support should be defined as a sector separate to Dairy and drystock.

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### **Relevant decisions:**

1. Draft alternative Lake Rotorua catchment nitrogen policy – 11 July 2013. Tabled at STAG by the Primary Producers Collective.
2. Lake Rotorua Stakeholder Advisory Group Position Paper – September 2013
3. Framework (including NDAs) approved by Regional Council’s Strategy, Policy and Planning Committee on 25 June 2013

**Table 1: Sources of nitrogen entering Lake Rotorua from the catchment<sup>1</sup>.**

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<sup>1</sup> Nitrogen figures are based on the most up to date ROTAN modelling work done in April 2011

Source of nitrogen	Area in use (ha)	% of total catchment	Total tN/yr (in 2010)	% of total N	Average kg N ha/yr
Dairy	5050	10.9	273	36.2	54.1
Drystock <sup>2</sup>	15072	32.5	236	31.3	15.7
Forest	21182	45.7	75.4	10.0	3.6
Urban <sup>3</sup>	3961	8.5	93.4	12.4	23.6
Lifestyle	1053	2.3	16.7	2.2	15.9
Geothermal	59	0.1	30.3	4.0	513.6
Rain	n/a		30	4.0	
<b>TOTAL</b>	<b>46377</b>	<b>100</b>	<b>755</b>	<b>100</b>	<b>16.3</b>

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<sup>2</sup> Including sheep, beef, horticulture and cropping

<sup>3</sup> Including urban (25.5t), urban open space (8t), septic tanks (26.2) and sewage treatment (33.7t)