Draft Sector Targets in OVERSEER 6.1.3 – methods and issues

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ROTORUA TE ARAWA LAKES PROGRAMME

Proud Partners

DESTINATION ROTORUA
ROTORUA DISTRICT COUNCIL

TE ARAWA LAKES TRUST

Bay of Plenty REGIONAL COUNCIL

Contents

- Key principles used to convert from OVERSEER 5.4 to OVERSEER 6.1.3
- Weaknesses of the approach
- Recommendations

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Calculating sector targets through version changes – principles

1. The percentage reduction remains the same as proposed using RoTaN numbers.

Dairy 54.1 ↘ 35 i.e. **35.3% reduction**

Drystock 15.7 ↘ 13 i.e. **17.2% reduction**

All calculations after this are extrapolated to the latest groundwater area.

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Calculating sector targets through version changes – principles

2. The new sector average is

$$\frac{\text{\% change between versions x benchmarked load}}{\text{benchmarked area}}$$

i.e	Dairy	49.1	⇒	71.1
	Drystock	16.1	⇒	24.8

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Calculating sector targets through version changes – principles

3. Ranges are manually adjusted until the target load is achieved.

i.e.	Dairy	30-40	➡	39-60
	Drystock	10-20	➡	15-35

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Calculating sector targets through version changes – principles

5. Catchment sector targets are extrapolated by applying benchmarked averages to the non benchmarked land.

i.e.	Dairy	96 tonne	➡	125 tonne
	Drystock	44 tonne	➡	70 tonne

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Calculating sector targets through version changes – principles

6. The incentives target is a constant percentage (71%) of the sector targets.

i.e.	Rotan	100 = **71%** (96+44)
	6.1.3	139 = **71%** (125+70)

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Draft Summary Table

Rotan loads and agreed reductions								
Sector	sub group	Area (ha)	Average N discharge (kgN/ha/yr)	Catchment Load (tN/yr)	Agreed 2032 sector allocation (kgN/ha/yr)	Agreed 2032 sector allocation (tN/yr)	Agreed reduction from sector (tN/yr)	Reduction from sector as a % of each sectors total load
Trees		21182	3.6	76	3.6	76	0	0%
Dairy		5050	54.1	273	35	177	96	35%
Drystock		16125	15.7	253	13	210	44	17%
Incentives				0		-100	100	71%
Total		**42357**		**603**		**363**	**240**	**40%**

Groundwater loads, reductions and targets in Overseer 6.1.3 using RoTaN as the starting point								
Sector	sub group	Area (ha)	Average N discharge (kgN/ha/yr)	Catchment Load (tN/yr)	Sector reduction %	Reduction from sector (tN/yr)	Revised 2032 sector allocation (tN/yr)	Sector per ha allocation assuming the same area (kgN/ha/yr)
Trees		19285	2.8	54	0%	0	54	2.8
Dairy		4983	71	354	35%	125	229	46
Drystock		16368	25	406	17%	70	337	21
Incentives				0	71%	139	-139	
Total		**40636**		**814**	**41%**	**334**	**480**	

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Weaknesses

- Dairy file dataset is incomplete which will be affecting the percentage shifts between versions
- The non-benchmarked area is assumed to have losses equal to the average benchmarked losses for each sector.
- Requires the 300+ benchmark files to be continually updated to new Overseer versions
- Range calculation is subjective
- Datasets constantly changing (benchmark and parcel)
- Human error
- One possible approach of many!

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Recommendations

- A small group of people review and check methodology
- Methodology is signed off by Land Tag
- **Any changes to the approach aim to simplify**

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