

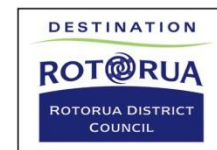
Draft Sector Targets in OVERSEER

6.1.3 – methods and issues

StAG 16 December 2014



Proud Partners



Contents

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

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.

Calculating sector targets through version changes – principles

2. The new sector average is

$$\frac{\% \text{ change between versions} \times \text{benchmarking load}}{\text{benchmarking area}}$$

i.e

Dairy	49.1	→	71.1
Drystock	16.1	→	24.8

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

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

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 $139 = 71\% (125+70)$

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	



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!

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**