

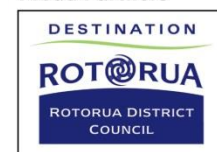
Draft conversion principles for transitioning reductions and allocations between OVERSEER versions

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Draft principles

1. The change in catchment loads, sector targets and estimated benchmarks, are calculated by comparing the changes in average sector nitrogen discharges between Overseer versions.
2. Averages are calculated by comparing the available benchmark data within the Rotorua groundwater boundary.

Draft principles

3. Reductions and allocations are calculated as a consistent percentage of the total sector load. These sector allocations are set at 35/54.1 (65%) of benchmarked load for the dairy sector and 13/15.7 (~83%) of benchmarked load for the dry stock sector.
4. The required reduction from incentives will be maintained at the same percentage of the total agreed reductions from the dairy and dry stock sectors ie $100/(96+44)$ (~71%).

Draft principles

5. House block areas will be included in the bush and scrub areas in order to allocate background losses to this area and on the assumption that OSET rules will deal with the N losses from house effluent.
6. Two tree sectors have been created to avoid under and over allocation to bush and forestry areas respectively.

Draft principles

7. The lower end of the dry stock range is set at the permitted activity allocation. The upper end is calculated to meet the 2032 sector allocation.
8. The lower end of the dairy sector is set at twice the permitted activity allocation. The upper end is calculated to meet the 2032 sector allocation.

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	



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	54.100	273	35	177	96	35%
Drystock		16125	15.700	253	13	210	44	17%
Incentives				0		-100	100	71%
Total		42357		602.62		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 and house block area		19420	2.8	54	0%	0	54	3
Dairy		5024	72	362	35%	128	234	47
Drystock		16997	25	418	17%	72	346	20
Incentives				0	71%	143	-143	
Total		41441		834	0	342	491	