Appendix I – Tables showing the load of nitrogen and phosphorus from current and proposed landuse on the Hurunui River

Glenturret Farm Limited **Wharenui + McLachlans**

Nitrate Nitrogen + Nitrite Nitrogen concentration	0.3216	mg/L	concentration
Mean Flow of the Hurunui River	70.2	m^3/s	https://www.lawa.org.nz/explore-data/canterbury-region/water-quantity/surface-water-zones/hurunui-waiau-surface-water/hurunui-river-sh1-bridge
Total flow per year	2213827200.00	m^3/yr	70.2 m^3/s x 365 days per year
Total load (gm/m^3 per year)	712,000,000	gm/m^3 per year	0.3216 mg/L * total flow per year
Total load (kg/year)	712000	kg per year	Convert to kilograms (/1000)
Total load (tonnes)	712	tonnes per year	Convert to tonnes (/1000)
		Applicants Property	
Existing Property	8813	kg/N year	Overseer
Proposed Farm	11,838	kg/N year	Overseer
Change	3,025	kg/N year	Overseer
		Change	
% of Total Load	0.25	%	Percentage of total load
Additional load per year	3025000	gm/m3/year	Increase N x 1000
Concentration	0.001366412	mg/L	Additional load per year + total flow per year
		Summary	
Total load Hurunui River	712	tonnes per year	
Increase from this proposed activity	3.025	tonnes per year	
Total load as a result of proposed activity	715	tonnes per year	
Load limit pHWRRP	963	tonnes per year	Schedule 1 - Catchment Nutrient Load Limits
Concentration	0.3230	mg/L	concentration from farm and concentration in river

Dissolved phosphorus concentration	0.0012	mg/L	concentration
Mean Flow of the Hurunui River	70.2	m^3/s	https://www.lawa.org.nz/explore-data/canterbury-region/water-quantity/surface-water-zones/hurunui-waiau-surface-water/hurunui-river-sh1-bridge
Total flow per year	2213827200.00	m^3/yr	70.2 m^3/s x 365 days per year
Total load (gm/m^3 per year)	2,656,593	gm/m^3 per year	0.0012 mg/L * total flow per year
Total load (kg/year)	2657	kg per year	Convert to kilograms (/1000)
Total load (tonnes)	2.657	tonnes per year	Convert to tonnes (/1000)
		Applicants Property	
Existing Property	217	kg/N year	Overseer
Proposed Farm	277	kg/N year	Overseer
Change	60	kg/N year	Overseer
		Change	
% of Total Load	0.21	%	Percentage of total load
Additional load per year	60000	gm/m3/year	Increase N x 1000
Concentration	2.7E-05	mg/L	Additional load per year + total flow per year
		Summary	
Total load Hurunui River	2.657	tonnes per year	
Increase from this proposed activity	0.06	tonnes per year	
Total load as a result of proposed activity	2.717	tonnes per year	
Load limit pHWRRP	10.7	tonnes per year	Schedule 1 - Catchment Nutrient Load Limits
Concentration	0.0012	mg/L	concentration from farm and concentration in river