

**NO3-N Objective Setting**

FMU	Site	Observed Data (mg/L)			Whaitua Objective		Minimum Acceptable State (MAS)		Scenario concentrations (mg/L)			Instream FWO (concentrations in mg/L)			Note- LDL= Lab Detection Limit  Comment
		NOF BAND	50th	95th	NOF BAND	Date	50th	95th	Scenario	50th	95th	Scenario chosen	50th	95th	
Huangarua	Huangarua River at Ponatahi Bridge	A	0.23	0.66	A	2080	0.23	0.66	BAU 2025	0.22	0.66	BAU 2040	0.22	0.66	MAS set in A Band at current observed data. Potential objective target chosen represents trade off between BAU 2080 and Silver 2080 reductions. BAU 2040 has been chosen by the Whaitua and GWRC as the most appropriate target date for Ruamahanga Main Stem and E.coli swimmability requirements. Therefore, BAU 2040 applied to achieve downstream scenarios. Reductions of 3.9% applied to medians and 0% applied to 95ths (as represented in BAU 2040 leaching map)
									BAU 2040	0.22	0.66				
									BAU 2080	0.22	0.66				
									Silver 2025	0.20	0.61				
									Silver 2040	0.19	0.58	Concentration reduction applied	3.9%	0.0%	
									Silver 2080	0.19	0.58				
									Gold 2025	0.19	0.58				
									Gold 2040	0.19	0.58				
Gold 2080	0.19	0.58													
Kopuaranga	Kopuaranga River at Stuarts	A	0.99	1.39	A	2040	0.99	1.39	BAU 2025	0.89	1.27	Silver 2040 + extra mitigations required	0.82	1.17	MAS set in A Band at current observed data. Objective target chosen to achieve objective for E.coli (not included in the current N03-N sheet), which requires Silver 2040 +extra mitigations to meet swimmability criteria. Silver 2040 reductions of 17.5% applied to medians and 15.9% applied to 95ths.
									BAU 2040	0.89	1.27				
									BAU 2080	0.89	1.27				
									Silver 2025	0.86	1.23				
									Silver 2040	0.82	1.17	Concentration reduction applied	17.5%	15.9%	
									Silver 2080	0.82	1.17				
									Gold 2025	0.82	1.17				
									Gold 2040	0.82	1.17				
Gold 2080	0.82	1.17													
Mangatarere	Mangatarere River at State Highway 2	B	1.06	2.07	A	2040	1.06	2.07	BAU 2025	1.05	2.07	Silver 2040 + extra mitigations required	0.99	1.50	MAS set in B Band at current observed data. Objective target chosen (A) represents Whaitua Objective. Modelling reductions (Silver) can lower medians to A band, however 95ths require up to 30% reduction, not achievable in current scenarios. Have set median at the Silver 2040 concentration and 95th at the bottom end of the N03-N A NOF band
									BAU 2040	1.05	2.07				
									BAU 2080	1.02	2.03				
									Silver 2025	0.99	2.06				
									Silver 2040	0.99	2.06	Concentration reduction applied	6.8%	27.5%	
									Silver 2080	0.98	2.06				
									Gold 2025	0.98	2.06				
									Gold 2040	0.98	2.06				
Gold 2080	0.97	2.06													
Parkvale	Parkvale Stream at Renalls Weir	C	1.74	3.90	A	2040	1.74	3.90	BAU 2025	1.73	3.92	Silver 2040 + extra mitigations required	1.00	1.50	MAS set in C Band at current observed data. Whaitua Objective is an A band. Current modelling cannot achieve this, and would require >50% reductions in 95th concentrations. Have set objective target at NOF A band upper limits for 50th and 95 <sup>th</sup> .
									BAU 2040	1.73	3.92				
									BAU 2080	1.73	3.92				
									Silver 2025	1.53	3.66				
									Silver 2040	1.53	3.66	Concentration reduction applied	42.4%	61.5%	
									Silver 2080	1.53	3.66				
									Gold 2025	1.52	3.64				
									Gold 2040	1.52	3.64				
Gold 2080	1.52	3.64													