

Te Awarua-o-Porirua information on fresh water current state: *E.coli*

Drains to	FMU group	FMU name	Reporting point name (from modelling)	What is the current state?				
				From SoE monitoring data (2013 to 2017)	From WWL monitoring data (2014 - 17)	From CMP modelling of current state	From MFE swimmability modelling (at monitoring sites)	
Open coast	Open Coast	Hongoeka to Pukerua	Hongoeka			E		
			Titahi			E		
			South Beach Access		E			
Taupo	Taupo	Taupo	Camborne case study			E		
			Mouth		E	E		
			Wetland			E		
Pauatahanui inlet	Rural Hill	Horokiri and Motukaraka	Battle Hill			E		
			Near Pauatahanui Golf Club	E		D	C	
			Mouth			D		
			Kakaho			E		
			Moonshine Gorge			E		
	Rural Low	Pauatahanui	Upper Duck Creek			E		
			Middle reaches	E		E	E	
	Urban	Lower Duck Creek	Mouth			E		
						E		
						E		
					E			
					E			
Onepoto inlet	Rural Hill	Rangituihi	Bottom of sub-catchment			E		
			Ration			E		
			Takapu			E		
			Upper Kenepuru			E		
			Belmont			E		
	Rural Low	Stebbings	Bottom of sub-catchment			E		
			Whitireia			E		
			Mouth			E		
	Urban	Hukarito	Kenepuru Stream	Mouth		E	E	
				Infill case study			E	
				Mouth		E	E	
				Mahinawa Stream		E	E	
				Mouth		D	E	
				Onepoto Fringe		E	E	
				Elsdon		E	E	
Porirua	Grenada North industrial	Willowbank			E			
					E			
					E	E		
					E	E		
					E	E		

Description of risk of Campylobacter infection (based on E. coli indicator)	NOF Attribute state - <i>E.coli</i>				
	A	B	C	D	E
	For at least half the time, the estimated risk is <1 in 1000 (0.1% risk) The predicted average infection risk is 1%*	For at least half the time, the estimated risk is <1 in 1000 (0.1% risk) The predicted average infection risk is 2%*	For at least half the time, the estimated risk is <1 in 1000 (0.1% risk) The predicted average infection risk is 3%*	20-30% of the time the estimated risk is ≥50 in 1000 (>5% risk) The predicted average infection risk is >3%*	For more than 30% of the time the estimated risk is ≥50 in 1000 (>5% risk) The predicted average infection risk is >7%* the estimated risk is ≥50 in 1000 (>5% risk)

Red line indicates the minimum point at which an objective can be set - i.e. objectives must be set in A, B or C band

* The predicted average infection risk is the overall average infection to swimmers based on a random exposure on a random day, ignoring any possibility of not swimming during high flows or when a surveillance advisory is in place (assuming that the E. coli concentration follows a lognormal distribution). Actual risk will generally be less if a person does not swim during high flows.

http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/nps-freshwater-amended-2017_0.pdf

Te Awarua-o-Porirua information on fresh water current state: Ammonia toxicity

Drains to	FMU group	FMU name	Reporting point name (from modelling)	What is the current state?		
				From monitoring data**	From CMP modelling of current state	
Open Coast	Open Coast	Hongoeka to Pukerua	Hongoeka		A	
		Titahi	Titahi Bay		C	
Taupo	Taupo	Taupo	Camborne case study		B	
			Mouth		B	
			Wetland		B	
Pauatahanui inlet	Rural Hill	Horokiri and Motukaraka	Battle Hill		A	
			Near Pauatahanui Golf Club	A (B)	A	
			Mouth		A	
			Kakaho		A	
			Mouth		A	
	Rural Low	Pauatahanui	Moonsline Gorge	Bottom of sub-catchment		B
			Upper Duck Creek	Bottom of sub-catchment		B
			Middle reaches		A (B)	B
			Mouth		A	
			Mouth		B	
Urban	Lower Duck Creek	Mouth		B		
Onepoto inlet	Rural Hill	Rangituhi	Bottom of sub-catchment		B	
			Takapu	Bottom of sub-catchment		B
			Upper Kenepuru	Bottom of sub-catchment		B
			Belmont	Lincolnshire Farms		C
	Rural Low	Stebbings	Bottom of sub-catchment		B	
			Whitireia	Mouth		B
			Hukarito	Mouth		C
	Urban	Kenepuru	Infill case study		C	
			Mouth*	C (C)	C	
			Mahinawa Stream	Mouth		B
			Onepoto Fringe	Elsdon		C
			Porirua	Grenada North industrial		A
				Glenside	A (A)	
				Willowbank		C
Kenepuru Drive	B (B)	C				
Mitchell Stream*	A (B)	C				
Mouth		C				

NOF Attribute state - ammonia toxicity			
A	B	C	D
99% species protection level: No observed effect on any species tested	95% species protection level: Starts impacting occasionally on the 5% most sensitive species	80% species protection level: Started impacting regularly on the 20% most sensitive species (reduced survival of most sensitive species)	Starts approaching acute impact level (i.e. risk of death) for sensitive species

Red line indicates the national bottom line - i.e. objectives must be set in A, B or C band

http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/nps-freshwater-amended-2017_0.pdf

* Monitoring data has been benchmarked using the most recent five years' data. Sites marked with * have only one years' data available.

** Grades are calculated from pH adjusted measurements, while grades in brackets are from unadjusted measurements. Modelling results cannot be pH adjusted as pH is not modelled.

Te Awarua-o-Porirua information on fresh water current state: Nitrate toxicity

Drains to	FMU group	FMU name	Reporting point name (from modelling)	What is the current state?		
				From monitoring data	From CMP modelling of current state	
Open Coast	Open Coast	Hongoeka to Pukerua	Hongoeka		B	
		Titahi	Titahi Bay		A	
Taupo	Taupo	Taupo	Camborne case study		C	
			Mouth		B	
			Wetland		B	
Pauatahanui inlet	Rural Hill	Horokiri and Motukaraka	Battle Hill		B	
			Near Pauatahanui Golf Club	A	A	
			Mouth		A	
			Kakaho		B	
			Moonshine Gorge		B	
	Rural Low	Pauatahanui	Upper Duck Creek		B	
			Middle reaches	A	A	
	Urban	Lower Duck Creek	Mouth		A	
			Mouth		B	
			Mouth		B	
Onepoto inlet	Rural Hill	Upper Kenepuru	Rangituhi		B	
			Takapu		B	
			Bottom of sub-catchment		B	
	Rural Low	Belmont	Lincolnshire Farms		B	
			Stebbing		C	
			Whitireia		B	
	Urban	Porirua	Hukarito		B	
			Kenepuru	Infill case study		B
			Mouth*		A	
			Mahinawa Stream		B	
			Onepoto Fringe	Elsdon		A
			Grenada North industrial		B	
			Glenside		B	
Willowbank		B				
Kenepuru Drive		B				
Mitchell Stream*		A				
Mouth		B				

NOF Attribute state - nitrate toxicity			
A	B	C	D
High conservation value systems. Unlikely to be effects on even sensitive species	Some growth effect on up to 5% of species	Growth effects on up to 20% of species (mainly sensitive species such as fish). No acute effects	impacts on growth of multiple species, and starts approaching acute impact level (ie risk of death) for sensitive species at higher concentrations (>20mg/l)

Red line indicates the national bottom line - i.e. objectives must be set in A, B or C band

http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/nps-freshwater-amended-2017_0.pdf

* Monitoring data has been benchmarked using the most recent five years' data. Sites marked with * have only one years' data available.

Te Awarua-o-Porirua information on fresh water current state: Dissolved zinc and dissolved copper toxicity

Drains to	FMU group	FMU name	Reporting point name (from modelling)	What is the current state?			
				From monitoring		From CMP modelling of current state	
				Zinc	Copper	Zinc	Copper
Open Coast	Open Coast	Hongoeka to Pukerua	Hongoeka			A	C
		Titahi	Titahi Bay			C	D
Taupo	Taupo	Taupo	Camborne case study			D	D
			Mouth			C	D
			Wetland			B	C
Pauatahanui inlet	Rural Hill	Horokiri and Motukaraka	Battle Hill			A	A
			Near Pautahanui Golf Club			A	A
			Mouth			A	A
		Kakaho	Mouth			A	A
		Moonshine Gorge	Bottom of sub-catchment			A	A
	Upper Duck Creek	Bottom of sub-catchment			A	A	
	Rural Low	Pauatahanui	Middle reaches			A	A
		Mouth				A	A
	Urban	Ration	Mouth			A	A
		Lower Duck Creek	Mouth			B	C
Onepoto inlet	Rural Hill	Rangituihi	Bottom of sub-catchment			A	A
		Takapu	Bottom of sub-catchment			C	A
		Upper Kenepuru	Bottom of sub-catchment			A	A
	Rural Low	Belmont	Lincolnshire Farms			C	C
		Stebbins	Bottom of sub-catchment			A	A
		Whitireia	Mouth			B	C
	Urban	Hukarito	Mouth			B	C
		Kenepuru	Infill case study			C	D
		Mouth*		C	C	C	D
		Mahinawa Stream	Mouth			B	C
		Onepoto Fringe	Elsdon			D	D
		Grenada North industrial				D	D
		Glenside		C	C		
Porirua	Willowbank				C	D	
	Kenepuru Drive		D	D	C	D	
	Mitchell Stream*		C	B	D	D	
	Mouth				C	D	

Attribute state - Dissolved metals toxicity			
A	B	C	D
99% species protection level: No observed effect on any species tested	95% species protection level: Starts impacting occasionally on the 5% most sensitive species	80% species protection level: Starts impacting regularly on the 20% most sensitive species (reduced survival of most sensitive species)	Starts approaching acute impact level (ie risk of death) for sensitive species

NB. This is not a NOF attribute

1) Monitoring data has been benchmarked using the most recent five years' data. Sites marked with * have only one years' data available.