

Arrow Basin area

State of the Environment (SOE) water quality testing results

This information sheet gives you details about the quality of the water in your catchment.

Otago Regional Council carries out monthly State of the Environment (SOE) water quality testing. Our SOE sampling sites around Otago generally focus on areas at the bottom of catchments so we can make informed decisions about the wider catchment area.

SOE monitoring results are based on five years of data taken when the flow site was at or below median flow (note that the top 20% of the data is removed from the final information so the data isn't skewed by extreme results). The results for the Arrow Basin area are shown in the table below:

Rivers	Nitrogen (NNN mg/l)	Ammonium (NH ₄ -N mg/l)	Dissolved phosphorus (DRP mg/l)	Bacteria <i>E. coli</i> (cfu/100ml)	Turbidity NTU
Mill Creek at Fish Trap	0.42	0.013	0.007	300	4.26
Water Plan limit	0.075	0.10	0.010	260	5.0

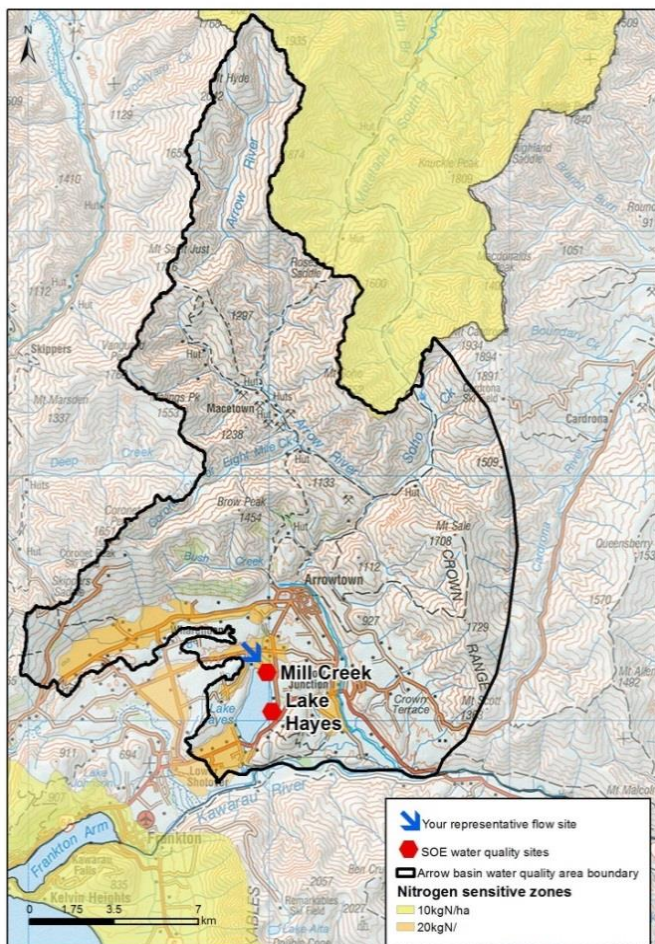
Lakes	Nitrogen (TN mg/l)	Ammonium (NH ₄ -N mg/l)	Phosphorus (TP mg/l)	Bacteria <i>E. coli</i> (cfu/100ml)	Turbidity NTU
Lake Hayes	0.39	0.043	0.055	2	3
Water Plan limit	0.55	0.10	0.033	126	5.0

The figures in red show results that exceed the river or lake water quality limit. In this area, Mill creek at Fish Trap exceeds the water quality limits for nitrogen and *E. coli*. Lake Hayes exceeds limits for phosphorus.

What is the water tested for and why?

Nutrients	Nitrite-nitrate nitrogen (NNN)	Can cause nuisance plant/algae growth, which can affect stream life, block water intakes and make water unpleasant for swimming and drinking. Can be toxic to fish.
	Ammoniacal nitrogen (NH ₄ -N)	
	Dissolved reactive phosphorus (DRP)	
Bacteria and turbidity	Escherichia coli (<i>E. coli</i>)	<i>E. coli</i> is an indicator of the suitability for swimming or stock drinking water.
	Turbidity	Turbidity is a measure of the cloudiness of water, which may affect stream ecosystems.

Where is the flow site for the Arrow Basin area?



The local representative flow site is Mill Creek (see the blue arrow on the map).

The flow site measures the volume of water flow and shows what it is in relation to the median flow.

You can find the real-time flow data at:

<https://www.orc.govt.nz/managing-our-environment/water>

Why does ORC do SOE water testing?

ORC is responsible for managing Otago's natural and physical resources.

State of Environment (SOE) monitoring and reporting informs ORC decision-making and policy development by showing us where environmental management has been effective. It also provides warnings about areas where there are environmental problems that need to be addressed.

Contaminant limits have been set to measure the health of Otago's lakes and rivers, and these are set out in the Regional Plan: Water for Otago. SOE water quality testing compares the results against these limits (Schedule 15).

SOE monitoring is a requirement for local authorities under the Resource Management Act (RMA).

Keep up-to-date on information about water in Otago by visiting our water-specific site at goodwaterinotago.nz