

Managing the amount of water in the Arrow catchment and Wakatipu Basin aquifers

Frequently Asked Questions

What is the purpose of developing the Arrow Plan Change?

Otago Regional Council (ORC) aims to establish a water management regime for the Arrow catchment and Wakatipu Basin aquifers. The purpose of developing a change to the Regional Plan: Water for Otago (Water Plan) is to set minimum flows and water allocation limits for the Arrow catchment and to manage the amount of water in the Wakatipu Basin aquifers.

Why is the ORC doing this plan change?

Section 30 of the Resource Management Act 1991 (RMA) requires regional councils to set levels and flows for water bodies, if appropriate. The National Policy Statement for Freshwater Management 2014 (NPSFM) requires every water management unit to have 'environmental flows and/or levels' and to phase out over-allocation and ensure efficient water use. ORC began a programme of plan changes in 2004 to set minimum flows and levels for catchments throughout Otago.

There are also a number of historic 'deemed permits' in Otago which provide rights to take water which have not yet been required to comply with take restrictions such as minimum flows. Under the RMA these expire in 2021 and the process of replacing deemed permits with resource consents has begun. Plan changes for catchments with high numbers of deemed permits are now prioritised to ensure as much certainty as possible for those applicants replacing deemed permits.

How does the ORC manage surface water?

The Water Plan uses two principal mechanisms for managing water takes: minimum flows for rivers and connected groundwater, and allocation limits for consented water takes. Residual flows and recovery flows are additional mechanisms that can be used in particular cases to achieve sustainable management of catchment water.

What is a minimum flow?

A minimum flow restricts when water can be taken from a river under low flow conditions. When a river drops below its minimum flow, anyone with a consent to take water (other than a deemed permit) must stop taking. It does not apply to some individual permitted activity takes for domestic use, stock drinking water, firefighting and consented takes for scheduled community water supplies.

The aim of setting minimum flows is to protect aquatic ecosystems and the natural character of Otago's rivers, while taking into account community and stakeholder social, cultural, economic and environmental values. Schedule 2D.1 of the Water Plan contains a list of matters to be considered when setting a minimum flow.

Schedule 2A of the Water Plan specifies current minimum flows and allocation limits, for catchments and catchment areas in Otago. The Arrow catchment is not listed within Schedule 2A and hence no minimum flow currently exists. The nearby Lake Hayes catchment, is specified and a minimum flow applies to Mill Creek, which flows into Lake Hayes, of 180 litres per second (l/s) and the catchment is shown on Map B6.

Existing water permits allowing water to be taken from any catchment not currently listed in Schedule 2A have no minimum flow condition applied to them. Once a minimum flow is specified in Schedule 2A any new water permits granted to take water will become subject to a minimum flow consent condition if the water is taken from the main stem of a river, and may be subject to a minimum flow consent condition if the water is taken from a tributary of the Arrow.

What is a residual flow?

A residual flow applies to specific consents that take water from, for example, a tributary of a main river. A residual flow recognises that a tributary stream often has different flow characteristics from the main river stem. It is set at the point of take on a case by case basis, to provide for the aquatic ecosystems and natural character of the source water body, at or downstream of the take point.

Setting of residual flows and the management of similar flow requirements is being addressed through a separate plan change process which is under development.

What is an allocation limit?

An allocation limit is the amount of water that water permit holders are allowed to take from a catchment or aquifer. There are two types of allocation in the Water Plan for surface water: primary and supplementary.

What is primary allocation?

Primary allocation is the maximum amount of water that can be taken from the catchment by holders of a consent classed as “primary”, and has the lowest scheduled minimum flow. A primary allocation limit is set to provide for economic, social and cultural wellbeing, while also supporting reliable access to the water resource. In over-allocated catchments, this means the primary allocation has exceeded the primary allocation limit.

Schedule 2A of the Water Plan identifies primary allocation limits for specified catchments in Otago. Catchments that are not listed in Schedule 2A have a “default” primary allocation limit, which is 50% of MALF. No primary allocation limits have been specified for the Arrow catchment.

What is supplementary allocation?

Supplementary allocation, which can be in blocks if appropriate, is available if the primary allocation block is fully or over-allocated. Supplementary allocation consents have a higher minimum flow and water is usually taken in winter and spring and stored for later use. When river levels drop, supplementary consent holders are required to stop taking water before those with primary allocation consents. Further supplementary allocation can be made at still higher minimum flows.

Policy 6.4.9 provides for supplementary allocation and Schedule 2B of the Water Plan identifies those catchments which have supplementary allocation blocks, and specific minimum flows for those blocks. There are currently no supplementary allocation blocks set in Schedule 2B for the Arrow catchment.

How does the ORC manage groundwater?

Groundwater connected to a perennial surface water body

If groundwater is ‘connected’ to a perennial surface water body, then it is managed as surface water, and would be subject to any relevant minimum flow and allocation limit. ‘Connected’ groundwater is defined in Policy 6.4.1A of the Water Plan, and includes water in any aquifer identified in Schedule 2C, any groundwater that is within 100 m of a surface water body, and has a hydrological connection to it. If groundwater takes are located more than 100 m from a connected surface water body, and deplete the surface water body by at least 5 l/s, a dual water allocation regime applies. None of the Wakatipu Basin aquifers are currently listed as a Schedule 2C aquifer.

Groundwater not connected to a perennial surface water body

If groundwater is not connected to a perennial surface water body, it is managed as groundwater by setting a maximum allocation limit, and sometimes restriction levels, on an aquifer.

What is a maximum allocation limit?

The maximum allocation limit for specified aquifers is set in Schedule 4A of the Water Plan. It sets a limit to the volume of water that can be taken annually from an aquifer by water permits and is set to maintain long-term groundwater levels and avoid aquifer compaction. The Wakatipu Basin aquifers are not currently listed in Schedule 4A. When no limit is set in Schedule 4A, which is the case for the Arrow Catchment and Wakatipu Basin aquifers, the maximum allocation limit is determined as 50% of the mean annual recharge of the aquifer. The maximum allocation limit is expressed in million cubic metres per year (Mm³/yr). Schedule 4C of the Water Plan contains a list of matters considered when setting a Maximum Allocation Limit.

What is an aquifer restriction level?

A restriction level constrains the taking of groundwater from an aquifer during extended periods of low recharge, or can assist with sustainably managing groundwater in localised areas of high demand. These protect the aquifer from over-depletion. Typically, the restriction will be a percentage of a consented take and the increasing restrictions are listed in Schedule 4B.1 and the areas shown on Maps D1 – D4 of the Water Plan. The aquifers in the Wakatipu Basin do not have aquifer restriction levels. Schedule 4C of the Water Plan contains a list of matters to be considered when setting an aquifer restriction level.