

Broken System Temporary Qualification of Rights 2019/20

Implementation Report 27 July 2020



Excellence



Honesty



Accountability



Courage



Caring

Background

Following a request by Goulburn-Murray Water (GMW) in December 2019, the Minister for Water approved a temporary qualification of rights in the Broken System for 2019/20 to enable all water share holders to access water for critical domestic and stock needs.

The temporary qualification of rights took effect from 1 January 2020 until 30 June 2020 unless the seasonal determination reached 50% high-reliability water share (HRWS).

This report summarises the implementation and effectiveness of the temporary qualification of rights.

Water availability and implementation

A 2% HRWS seasonal determination was announced for the Broken system on 16 March 2020. There were no further seasonal determination increases for the 2019/20 season.

There was 3,957 ML of carryover and allocation credited to Broken entitlements during 2019/20. Additionally there were ongoing back trade opportunities into the Broken System from the Goulburn and its connected systems.

GMW wrote to Broken customers in December 2019 advising them that the Minister for Water had declared a water shortage and that water could be access for critical domestic and stock purposes. This letter also included a link to a page on the GMW website that provided more detail about the qualification including frequently asked questions.

Impact on the environment and other water users

GMW relies on data from across the catchment to operate the regulated Broken System, including a number of key stream flow gauge stations. These sites were closely monitored through the season to ensure operations were efficient and responsive to variable flow conditions and customer demands.

All customer orders were met through the season and operational losses (otherwise known as end of system flows) were consistent with expected performance. A total of 2,123 ML was used in 2019/20. Figure 1 shows the flow at the Orrvale gauge during the peak regulated period. This gauge is the last on the Broken River and indicates the very low operational losses through the season. It is noted, the distinct higher flows in December and January were from outfalls from the East Goulburn Main channel to deliver Goulburn inter-valley trade commitments to the Murray system, helping to reduce the flow on the Goulburn River immediately downstream of Goulburn Weir. The higher flows in March were due to catchment runoff from rainfall.

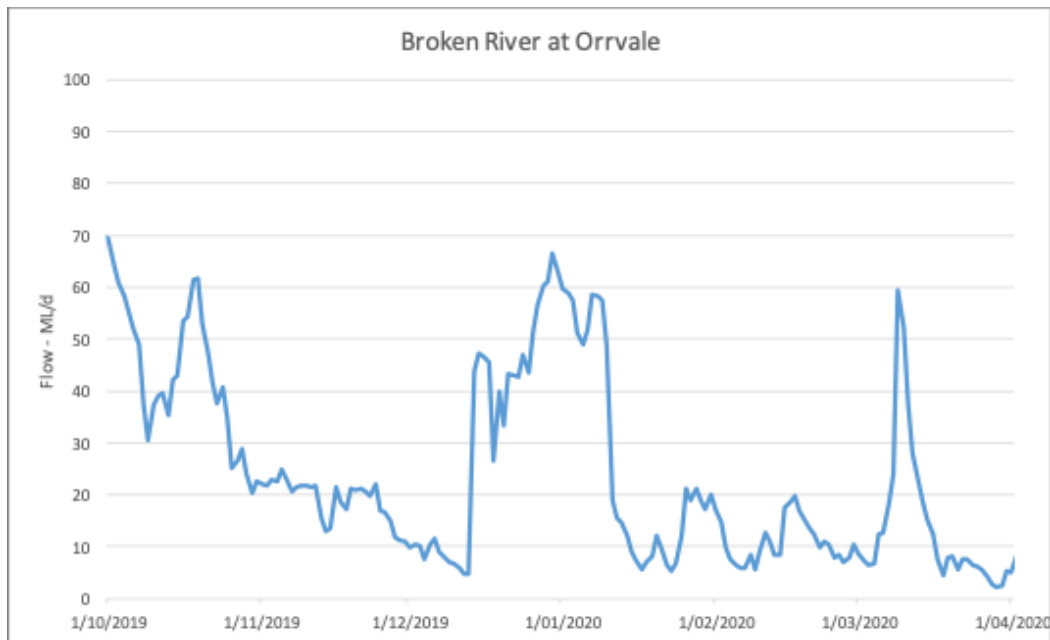


Figure 1: Daily flow at the Orrvale gauge 404222 on the Broken River

During the temporary qualification of rights, there was only one day when minimum flow requirements were not met. This was on 29 March 2020 when the flow was below the required minimum by less than 1 ML downstream of Gowangardie Weir during a period of very tight operations. The one day of non-compliance occurred just 6 days before the first autumn break in rainfall which saw flows at Gowangardie increase to around 1,100 ML/d.

GMW maintained regular communication with the Goulburn-Broken Catchment Management Authority (GB CMA) through-out the season to ensure the qualification of rights did not have any unexpected environmental outcomes.

The GB CMA provided the following information to support this report:

- In response to the temporary qualification of surface water rights on the Broken System, the GB CMA in collaboration with GMW closely monitored Broken Systems flows throughout the season to assess and respond to any environmental implications. Flow was monitored near real time at three locations along the Broken River downstream of Lake Nillahcootie and near real time water quality (dissolved oxygen and temperature) was monitored at the bottom end of the system.
- The monitoring did not identify any environmental implications attributable to the temporary qualification of surface water rights. In addition, annual native fish monitoring carried out in March 2020 recorded a similar number of native fish to the previous year. Although some fish showed signs of poor condition this was not unexpected given the extended dry conditions and reduced flows. Furthermore, any potential environmental implications attributable to the temporary qualification of surface water rights would have been offset by the use of banked water to supplement operational and unregulated releases to ensure minimum environmental flow requirements were met.
- Between May and December 2019 the GB CMA and GMW agreed to reduce the passing flow requirement below Lake Nillahcootie from 30 ML/day or natural to 15 ML/day or natural and banked inflows above 15

- ML/day. Approximately 1,400 ML of water was banked during this time. This action was undertaken to ensure sufficient water was available to maintain minimum environmental flow requirements in the Broken River throughout the season. Approximately 221 ML of banked water was used in July, October and November to help meet the minimum environmental flow requirements. Operational releases and unregulated flows either met or exceeded this flow requirement in the other months.

Effectiveness of the temporary qualification of rights

The temporary qualification of rights was effective at ensuring water share holders had access to water for critical domestic and stock requirements where they had insufficient allocation to do so.

GMW received some initial enquiries about the interpretation of the temporary qualification of rights however did not receive any feedback that water couldn't be accessed for critical domestic and stock requirements.

GMW undertook the regular meter readings through the season and at the end of the season to ensure use was consistent with available water and the temporary qualification of rights.

In determining the application of the temporary qualification of rights, GMW considered available allocation, any trade activity and known water use. Several customers had use in excess of their available allocation that was due to irrigation activity and were pursued for an allocation trade.

The total volume qualified was 129.63 ML. Of this, 23.7 ML was through metered service points with the remaining assigned to unmetered service points where use was deemed in line with their normal deeming rates for domestic and stock use.

The volume qualified was consistent with expectations and that of GMW's request to the Minister for Water which was up to 200 ML.

While not part of the temporary qualification of rights, as mentioned in the information from the GB CMA the passing flow reduction played an important role. Initial projections indicated there was insufficient water to provide a flow in the river for the entire water year. Reducing the passing flows help keep the river running all water year and supported access to water under the temporary qualification of rights.

Actions being taken to prevent similar shortfalls in the future

The need for a temporary qualification of rights in 2019/20 came from successive years of very low inflows and dry catchment conditions. Actions to prevent these shortfalls are limited, however GMW aims to continuously improve system operations by use of real time data from across the catchment.

One key action GMW has undertaken to assist customers through seasons with low seasonal determinations is to carryover some of the Broken inter-valley trade balance from one season to the next which provides an opportunity for customers to back trade allocation from other systems.

The Minister for Water announced a review of water management arrangements for the Broken system in December 2019. This review may identify further options to assist customers accessing water when seasonal determinations do not provide sufficient allocation for critical domestic and stock purposes.