

Reservoir Watch September 2023

Reservoir Group	July 2023 Holding	August 2023 Holding	September 2023 Holding	Change in August-September period	Minimum historical* September holding (Year)
Kennet & Avon Canal	87.9%	87.9%	87.9%	0.0%	62.6% (2022)
Oxford & GU	85.5%	81.3%	65.7%	-15.6%	31.7% (2011)
GU South	72.0%	70.8%	62.9%	-7.9%	45.9% (2011)
GU North	82.4%	75.9%	64.0%	-11.9%	24.5% (2011)
Lancaster Canal	78.3%	85.9%	77.6%	-8.3%	51.9% (2010)
Leeds & Liverpool Canal	52.8%	67.9%	56.1%	-11.8%	16.8% (2022)
Peak Forest & Macclesfield Canals	50.5%	55.9%	51.1%	-4.8%	19.4% (2022)
Caldon Canal	71.9%	78.7%	67.5%	-11.2%	29.9% (2022)
Huddersfield Narrow Canal	51.4%	64.8%	50.7%	-14.1%	17.3% (2013)
Chesterfield Canal	26.0%	26.9%	23.9%	-3.0%	31.4% (2022)
Grantham Canal	91.2%	92.2%	92.2%	0.0%	74.2% (2014)
Birmingham Canal Navigations	92.9%	92.2%	87.0%	-5.2%	17.3% (2011)
Staffs & Worcs, Shropshire Union	84.5%	84.2%	83.1%	-1.1%	50.2% (2001)

* for the purposes of this analysis, historical holdings cover 1998-2022 reservoir holding data, inclusive.

General Conditions

As stated by the UK Centre for Ecology and Hydrology, August was characterised by a continuation of the unseasonably cool, wet, and windy weather that dominated in July, however, nowhere near as substantial. The temperature and rainfall in August were near-average but, with low pressure causing a series of Atlantic depressions, there was widespread heavy rainfall and surface water flooding. This resulted in the late first entries of the two named storm events of the 2022-2023 period, due to the inactivity in the winter months. In contrast, most of the summer months of 2023 were defined as autumnal, with July and August mainly having unsettled and wet conditions. In amongst the unsettled conditions, the rainfall in August came in sporadic downpours resulting in near average rainfall for most regions. Overall, the UK rainfall was 95% of average. Regarding river flows, August began with unseasonably high flows following from a wet July, these high river flows

continued throughout the whole month due to rainfall patterns across the UK. This resulted in the mean monthly flows being normal to moderately above normal across most of England.

Soil moisture was generally high for August, with sites being above the normal range. Soil Moisture Deficits were below average across much of the country. Groundwater levels were in the normal to above normal range.

As we approach into early autumn water resource picture is favourable at the national scale. Additionally, despite the heatwave at the beginning of September, the current Hydrological Outlook suggests normal river flows and groundwater levels for autumn.

The Met Office rainfall anomaly graphs and maps can be viewed at:

<https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-temperature-rainfall-and-sunshine-anomaly-graphs>

https://www.metoffice.gov.uk/pub/data/weather/uk/climate/anomacts/2023/8/2023_8_Rainfall_Anomaly_1991-2020.gif

The Trust's Water Resources

Of the thirteen of the Trusts reservoir groups, eleven of the thirteen showed decreases in holding, the remaining two reservoir groups showed no change in holding. The reservoir groups that showed no change in percentage holding was the Kennet & Avon and the Grantham Canal.

In the southern reservoir groups, four of the five reservoir groups, showed a decrease in holding. The largest decrease in holding was seen in the Oxford & GU with a decrease of -15.6%, this was followed by Grand Union North, Grand Union South and Birmingham Canal Navigations with -11.9%, -7.9% and -5.2% decreases in holding respectively.

Of the eight reservoir groups in the north, all but one showed a decrease in holding. The reservoir group with the largest decrease was the Huddersfield Narrow Canal with -14.1%, this was followed by Leeds & Liverpool Canal with -11.8%, then the Caldon Canal, Lancaster Canal, Peak Forest & Macclesfield Canal, Chesterfield, Staffs & Worcs, Shropshire Union with -11.2%, -8.3%, -4.8%, -3.0%, and -1.1% decreases in holding respectively.

Despite the unsettled weather over the past couple months, which is unusual for this time of year, most reservoirs showed a decrease in holding from the previous month. This decrease in holding can be related to the increased usage of reservoir stocks to support the canals as boating traffic and canal demands are still high. Additionally, the recent heatwave and lack of rainfall experienced at the beginning of September may have played a part in these decreases.

As always, the Water Management Team will continue to monitor all reservoir holdings during the coming months and work closely with operational staff to ensure water resources are deployed efficiently.

Boaters are advised to subscribe to email notifications of any waterway restrictions or closures at: <http://canalrivertrust.org.uk/notices>.

Issued by:

Water Management Team, Canal & River Trust
25 September 2023

Reservoir data presented is from the week ending Monday 18 September unless stated, along with data from the nearest comparable date in June and July.

Annex 1 – Canal & River Trust reservoir groups

Group name	Reservoirs within group
Kennet & Avon Canal	Crofton [<i>principally a spring-fed reservoir, and its yield is therefore greater than the storage volume indicates</i>]
Oxford & GU	Boddington, Wormleighton, Clattercote, Naseby, Sulby, Welford, Drayton & Daventry
GU South	Startopsend, Wilstone, Marsworth & Tringford
GU North	Saddington
Lancaster Canal	Killington
Leeds & Liverpool Canal	Rishton, Barrowford, Upper & Lower Foulridge, Slipper Hill, Whitemoor & Winterburn
Peak Forest & Macclesfield Canal	Sutton, Bosley, Toddbrook & Combs
Caldon Canal	Rudyard, Stanley & Knypersley
Huddersfield Narrow Canal	Sparth, Slaithwaite & Diggle
Chesterfield Canal	Harthill & Pebley
Grantham Canal	Knipton & Denton
Birmingham Canal Navigations	Windmill Pool, Terry's Pool, Engine Pool, Cofton, Upper Bittell, Rotton Park & Chasewater
Staffs & Worcs, Shropshire Union	Belvide, Gailey Upper, Gailey Lower & Calf Heath