



**Canal &  
River Trust**

Making life better by water

# Putting the water into waterways

## Water Resources Strategy 2015–2020

### 2020 Annual Update

The waterways we care for have the power to make a positive difference to people's lives, making us healthier and happier. Ensuring we have a secure long-term water supply will help us to achieve this. In October 2015 we published our Water Resources Strategy, 'Putting the water into waterways'. It set out our aspirations for the period 2015–2020 as well as looking as far ahead as 2050 to understand the longer-term pressures and challenges on water supply and use. This document provides an update of our progress over the past year against the strategic actions outlined within the strategy.

November 2020



## Navigational drought

In our 2015 strategy, we outlined our definition of navigational drought. An exceptionally dry spring once again led to restrictions and closures being implemented during 2020 in the North West and Yorkshire & North East Regions of our network. The Peak Forest & Macclesfield (PF&M) Canals and the Leeds & Liverpool (L&L) Canal were most severely impacted. On the PF&M Canals, the ongoing engineering works at Toddbrook Reservoir following the spillway incident in 2019, coupled with exceptionally dry conditions in spring 2020, led to closures on the Bosley and Marple Lock Flights from the end of April to the beginning of July this year. On the L&L Canal closures were implemented between Wigan and Bingley over the same period. From 6 July onwards, we were able to re-open the PF&M and L&L Canals with restrictions in place.

Our approach to drought management is to progressively implement measures to mitigate the impacts of dry weather on our canals and customers. We endeavour to engage with customers as early as possible. However, our decisions this year have been influenced by the Coronavirus outbreak, with Government Guidelines restricting non-essential travel from the end of March to the beginning of July. On the PF&M and L&L Canals, we therefore made the decision to close sections, rather than to restrict, in line with Government Guidelines and to hold our water resources in reserve until restrictions on travel were lifted.

Other canals on our network have also been impacted, particularly where the dry spring conditions coincided with reservoir engineering, operational or water conveyance issues e.g. on the Caldon Canal; Chesterfield Canal; Rochdale Canal; Huddersfield Narrow Canal; and Oxford Canal.

During the past year, we have been working collaboratively with our technical and operational colleagues to closely monitor developing drought conditions by reviewing reservoir levels and operational demands, whilst balancing the needs of the environment. We have been carefully liaising with our stakeholders to minimise disruption to our customers and visitors to our network where possible.

As in previous years, all of these experiences continue to inform our future Water Resources Strategies and improve our understanding of: navigational drought (strategic action 1); water resource shortfalls and loss rate estimates (strategic action 5); and the viability of water resource scheme options identified in our 2011 Water Resource Plans (strategic action 10).





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## Levels of service

As a Trust, we aspire to a level of service of 1 in 20 years, so that drought closures are implemented, on average, no more than once in every twenty years. Over the past year, we have provided technical input into several studies looking at schemes to improve our current levels of service (strategic actions 2, 9 and 10).

We have been working closely with the Environment Agency (EA) and Natural Resources Wales (NRW) on new abstractions, variations to existing abstractions and alternative sources of supply e.g. water company abstraction licence trading, where our level of service does not, or is not predicted to meet our aspirational level of service by 2030. Examples include schemes on the L&L Canal, the Sheffield & Tinsley Canal, the Peak Forest Canal and the Monmouthshire & Brecon (M&B) Canal.

We continue to support feasibility studies on the Rochdale Canal and have undertaken flow gauging on the Lancaster Canal to improve our understanding of losses and leakage so that leakage reduction works can be implemented. We have provided technical support to the Trust's Resilience Projects for the Gloucester & Sharpness (G&S) Canal and the Kennet & Avon Canal, looking to improve the reliability of our water resources in these hydrological units (HUs).



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## Modelling our canal network

We have continued work on developing new hydrological models using the Aquator software to replace our current water resources model during the past year under strategic action 5. Significant progress has been made on individual models e.g. for the Birmingham Canal Navigations, G&S Canal, Oxford & Grand Union Canals and L&L Canal HUs.

Work done to progress these, and other models, has included fieldwork, conceptualisation, model builds and discussions with model developers Hydro-Logic Services on software issues. We are also in the process of importing all our models, initially developed using Aquator 4.3, into Aquator XV, the most up to date version of the software. Models are also being extended to use data up to 2019, for the first time allowing the Trust to model a century of historical rainfall patterns to assess their effects on reservoir refill.

We are currently working with a number of water companies (see water company planning section below) on potential water transfer schemes to support strategic water transfers, and on the potential for abstraction licence trading to support the M&B Canal (with Dŵr Cymru Welsh Water). For each of these projects we have shared our existing Aquator models at various stages of development. We will be providing technical support to these projects as they develop, in turn furthering the development of our Aquator models.





## Future pressures on our water resources

We continue to use the most up to date information available to assess the following pressures on our water resources (as stated in strategic action 7): climate change, changes in funding, environmental legislation (likely reduction in abstraction volumes) and increased network usage.

In the Water Resources Strategy, we identified the Water Act (2003) as a significant pressure, with the potential to reduce our water availability in the future. Our exemption for surface water abstractions into canals has now been removed and 155 abstraction licence applications were submitted by the Trust in 2019. The abstraction licence determination period began on 1 January 2020, with the EA and NRW having three years to determine the abstraction licences. In doing so, there is a risk that some or perhaps many of our existing abstractions will have conditions placed upon them that will restrict the quantities of water we can abstract. Over the past year, we have therefore been working collaboratively with the EA and NRW to understand any impacts, such as the establishment of hands-off flows and significant limits to our abstractions. This work aims to mitigate the potential major impacts this could have on our water availability.

As part of the abstraction licence determination process, we have been asked by the EA and NRW to provide further information for 70 of our 155 applications. This information includes surveys of our infrastructure, abstraction structures and technical drawings related to each site. To this end, over the past year we have embarked on a surveying project with the aim of providing this additional information.

The project is planned to run alongside the determination of our abstraction licences, to ensure that the EA and NRW have all the information required to determine our abstraction licences by the statutory deadline of 31 December 2022.

We have also been working closely with the EA where essential changes to abstraction arrangements have implications for abstraction licences applied for under the Water Act (2003). The spillway incident at Toddbrook Reservoir in 2019 for example, has led to recommendations to permanently alter existing abstraction arrangements at this and other sites. At Toddbrook Reservoir, this has also led to discussions around alternative, new abstractions whilst permanent repair works are undertaken.

We continue to work collaboratively with the EA and NRW, water companies, other abstractors and interest groups to protect the Trust's future resources within several major river catchments, where future legislative pressures threaten our security of supply but where opportunities to collaborate in better overall water resources management exist. For example, we have team members sitting on the Senior Steering Group of the EA Water Resources National Framework, various Water Resources Regional Groups, the River Severn and River Trent Working Groups and the Usk and Wye Abstraction Group, protecting the interests of the Trust in relation to the G&S Canal and River Severn Navigation HUs, the Trent & Mersey Canal, and the M&B Canal, respectively.

We have continued to contribute to an EA-led research project looking at the sustainability of abstraction within the Bulbourne Brook catchment, in which two of our groundwater supply abstractions (Northchurch and Cowroast, which supply the Grand Union Canal) are located.

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## New marinas, restorations and new canals

In the Water Resources Strategy, strategic action 3 stated that we would only give our consent to new marinas if their impact on water resources does not reduce the level of service below 1 in 20 years. Since November 2019 we have assessed five new marina proposals and five Business Boating proposals to ensure that the additional water demands can be met without reducing the level of service below 1 in 20 years.

We have continued to produce and contribute to water resource assessments for proposed restorations and new canal developments to ensure there is no net impact on the level of service of our network, as stated in strategic action 4. In the past year we continued to provide support and advice to third-party led restorations on the Cromford Canal and Hatherton Canal, and have recently begun work to support the restoration of Bradley Locks, linking the Bradley Arm of the Old Main Line with the Bradley Branch of the Walsall Canal.

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## Water company planning

As a Trust, we continue to work closely with water companies, for example, responding to the recent consultation on the latest draft Water Resources Planning Guidelines, produced by the EA, Ofwat and NRW, contributing to strategic action 6. The document provides guidance for water companies on what to include in their water resource management plans (WRMPs). We will incorporate recommended techniques into our work where suitable and of benefit to the Trust.

In our 2019 Annual Update, we reported that four canal transfer schemes had been identified in the WRMPs for Affinity Water and Thames Water. During the past year, we have continued to work with these water companies, along with Severn Trent Water, inputting to technical evaluations around the viability of water transfers using our network, to support potable water supply. Much of this work has been funded by the water companies involved.

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## Side ponds

In our 2017 Annual Update, we reported on a volunteer led study, reviewing side ponds across our network. The study produced a definitive list of side ponds and made recommendations for future use and re-establishment, taking into account any potential water saving at each site. The study concluded that up to 50% of the water used in each lock operation could potentially be saved in some locations. However, incorrect use could potentially waste more water than would be saved. The study therefore concluded that refurbishment should only be recommended where side ponds would be operated by trained and experienced personnel. Over the past year, side ponds have been added to our asset database, making the information available to the wider business as part of the asset characteristics for each lock.

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## What are we planning to do in the next year of the Strategy?

We will continue our work on Aquator model development of our HUs and on the evaluation of potential schemes to help address the deficits in water resources against our agreed level of service. We will develop plans to ensure compliance with the 155 new abstraction licences, as each application is determined over the next two years, alongside any mitigation needed if licence conditions reduce our water availability. We will also continue with the refresh of the Strategy itself to determine how future progress of our strategic actions will be achieved.

## Links

For more information about the water management of our canals please visit our website [Managing our Water](#) and read our [Water resources strategy: putting the water into waterways](#)

Or, email your comments to [water.information@canalrivertrust.org.uk](mailto:water.information@canalrivertrust.org.uk)