



Water cascading down the wall by the west tower of Derwent Dam

Climate

In 2022, the UK experienced the hottest July on record and one of the top 6 driest summers. However, Severn trent Water (STW) did not find it necessary to introduce a hosepipe ban. The lowest the reservoirs became was 41% in early October and by 29th November, Derwent Reservoir was full again. If Derwent and Howden Dam walls are raised , STW estimate that it could be 3-7 years before water became deployable.

The nearest city is Sheffield. Since 2000, one major flooding event occurred in early November 2019 but the rest were in summer when the levels of the reservoirs were already declining and so it replenished them. These were 25 June 2007, 10 June 2009, 7 July 2012 and 20 September 2018. Warm air holds more moisture and results in heavier rainfall events.

It is suggested that raising dam walls might reduce flooding. However, flooding downstream from reservoirs occurs when they are full. Clearly, STW would like the new reservoir to fill but once this happens, the flood risk would be as great as before the dam wall was raised.

STW try to plan for upcoming heavy rainfall by reducing the level of Ladybower by releasing water into the River Derwent but in amounts determined by the Environment Agency. "Surplus" water, i.e. water that leaves the reservoirs in an uncontrolled fashion and is of no value to STW is that which goes down the 2 shaft overflows at the southern end of Ladybower Reservoir. To date (1st March 2023), during this winter water has only been lost on 7 days. This would not have made any significant impact on an extra 20m of dam wall at just 1 reservoir.

When Derwent and Howden reservoirs were constructed, loss of water from the surface by evapo-transpiration were estimated at 20-30%. If the dam walls are raised, the surface area will increase and losses will be greater as will the effect of climate change. Obviously, ground water recharge or water taken directly from rivers are a better option.

Demand and Trading

Following the movement of much industry from the East Midlands to Asia during the 1980s and because almost 50% of STW customers now have water meters, the demand for water in the region is now no more than it was 40 years ago. This has been put to STW on 2 occasions and they have not denied it. In addition, there has been no increased demand for water during the last 10 years except domestic use during recent covid lockdowns. STW's aspiration is to reach 100% metered households by 2035 but installing them is expensive, reduces profits and is not widely advertised. STW have said that any additional water would be deployed but have been vague as to where it would be going and for what purpose.

By 2010, STW were already lobbying Ofwat and the Government in respect of selling water to other companies. STW's

position in the heart of England with wetter areas in the north (Peak District National Park) and west (Welsh border) places them in an ideal position to trade water with the drier areas in the east and south such as East Anglia and Thames. Other water companies have protested at their privileged position. The company with the highest demand is Thames Water supplying the greater London area. Thames customers use the equivalent of 467 litres of water per day whereas STWs' average is 250. Already, there is a plan to move water from the River Severn to the River Thames entitled the "River Severn to River Thames Transfer" (STT). Note - In the hot summer of 2022, Thames Water mothballed an alternative supply, i.e. their desalination plant because of high running costs.