

# River Dour - Water, Water Everywhere...

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... the country is facing “an existential threat” and reaching “the jaws of death ... we will not have enough water to meet our needs.” This warning, given in March 2019 by Sir James Bevan, couldn't be clearer.

So, what's this about? If you look at the flow of our River Dour, you will note that it is rather healthy considering summer has just passed:

Monthly mean flows in the southeast this summer meant that the rivers were normal. Groundwater levels in the chalk ranged from above normal to exceptionally high in the east during August. The southeast received normal rainfall for this time of year, and in the past 6 to 12 months – above normal. Normal monthly mean flows were observed in the Dour at Crabble at the end of August. But in the southeast, the Rivers Dour and Darent, at Hawley in north Kent, were the only key sites that saw above normal flows.

**Also...** The UK is not actually as wet as we think.

While our temperate climate brings frequent rain, an average of 133 days totalling 885 millimetres (a tweak under 35 inches), our notoriously variable weather means that dry spells can come at any time of year:

This unpredictability is partly due to Britain's geographical location, where warm and dry tropical air from the south collides with cold and wet polar air from the north.

At the same time, warm moist air from the sea is driven by our prevailing south westerly winds onto our western uplands

where it rises over the mountains, cools, condenses, and releases rain. This not only makes the west wetter, it also keeps the east drier:

## **Climate change is altering our weather:**

In the last two decades we have had nine of our ten warmest years on record. In summer 2019, after three dry years, river levels dropped so much that some waterways disappeared. There could be worse summers to come. By 2040, more than half our summers could be hotter than some of the hottest heatwaves the UK has already experienced, river levels could drop by as much as 80 percent, and water shortages could be significant.

The pattern of rainfall is also shifting, winters will be generally wetter, and summers will be much drier. While more winter rain sounds like a boon, it will likely fall in intense downpour events during which rain is difficult to capture: a winter flood won't necessarily assuage a summer drought.

By 2040, we expect more than half of our summers to exceed 2003 temperatures.

## **Furthermore...**

The population of the UK is expected to rise from 67 million now to 75 million in 2050. All those extra people need houses and roads and energy and food and places to work, all of which will require more water.

On the present projections, many parts of our country will face significant water deficits by 2050, particularly in the southeast where much of the UK population lives.

Water covers three quarters of the Earth's surface yet around 97% is salt water and 2% is frozen – leaving just 1% available as fresh water.

### **Did you know...**

Each glass of water you drink has been drunk many times before – some figures say it's been through 4 other people before you and some say as many as 12.

Whatever the figure, it's still pretty impressive – and the thought that you are probably drinking dinosaur pee is mind-blowing!

### **So how does water get to our taps?**

These are our main water sources:

70% groundwater – As rain soaks through the ground it is stored in aquifers.

23% rivers – Water is taken from rivers to fill the reservoirs, or pumped directly to water treatment works for supply. More than 15% of the water taken from rivers comes from recycled water which has been cleaned at wastewater treatment works and released into the river.

7% reservoirs – Southern Water has four reservoirs, the largest is Bawl Water on the Kent/Sussex border, followed by Weir Wood, Darwell and Powdermill in Sussex.

Water authorities take the water from these rain-fed rivers, reservoirs, and aquifers, treat it, and then pump it into our

homes through some 208,000 miles of pipes.

Our wastewater is then collected, treated, and discharged back into rivers and the sea, where it evaporates, rises over the mountains, cools, condenses, and releases rain . . . And so, the cycle continues.

In developed countries such as ours, people's relationship with water is out of touch. Yet we do not only drink water, we swim in water, sail or row on water, we walk along rivers, canals and lakes. We cherish water in various ways, but often neglect its social, environmental and cultural value at the same time. It can be easy to take it for granted. But, by undervaluing water, we contribute to its poor management, and increasing scarcity.

Unless we all know the worth assigned to water, it will be hard to truly protect our water resources.



*Powdermill Reservoir, East Sussex*



*Bawl Water Reservoir, Kent & Sussex Border*



*Weir Wood Reservoir, East Sussex*