



*The Cam Valley Forum is an unincorporated association,  
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## **RESPONSE TO OFWAT**

### **PR24 AND BEYOND: FUTURE CHALLENGES AND OPPORTUNITIES FOR THE WATER SECTOR**

#### **The Cam Valley Forum**

The *Cam Valley Forum* is an association of local individuals with diverse environmental, recreational, academic and business interests, concerned directly or indirectly with the River Cam. Our interests embrace not only the main river within the City, its 'beating heart' and one of the most intensively-used stretches of water in Europe, but also the smaller watercourses that convey water through the fields and villages, local towns and Cambridge suburbs. Our mission is to be the voice for the River Cam: defending its health and wellbeing for its wildlife, environment and everyone that enjoys it; safeguarding its historical and cultural importance; and seeking, through a reasoned and evidence-based approach, changes in policy and practice to enhance the entire Cam catchment.

At a meeting in Cambridge with John Russell, OFWAT's Senior Director, Strategy and Planning, on 30 January 2020, a widely representative group of local people explained their concerns about our local water crisis. Since then we have engaged with the OFWAT Environment Team and have copied OFWAT in to our report '*Let it Flow!*'<sup>1</sup> and subsequent responses on significant national consultations<sup>2</sup>.

#### **What could the water sector look like in 2040, and how can OFWAT and water companies work towards that vision?**

Genuinely sustainable supply is the critical objective for water companies to achieve when looking ahead. OFWAT must strongly support this prime and urgent need. In much of South and East England, public water supplies are drawn almost exclusively from Chalk aquifers. In years where winter rainfall is much below the average, water abstracted for public water supply now often exceeds that which infiltrates the Chalk. Consecutive years of below-average winter rainfall were historically common, yet now such dry spells combine with high levels of groundwater abstraction to lower the water table, and leave historically perennial reaches of local Chalk streams dry or at the mercy of low flows that are insufficient to attenuate pollutants. The resultant environmental damage has included the local loss of wildlife, including specialised invertebrate species and fish. The risks that present groundwater abstraction volumes pose to local environments are unacceptable, and may preclude their existence for future generations.

Rainfall in our catchment has long been below the national average but the annual volume has remained essentially constant over many decades. The low flows suffered by our rivers result from abstraction to satisfy an exponential increase in water use - domestic, agricultural and industrial. One way of seeing this water deficit problem is to view groundwater as a 'commons' serving both the human supply of water and the natural environment's need for Chalk stream flow. Both draw on this now diminishing resource. The 'Tragedy of the Commons'<sup>3</sup> is where one common resource user gains by increasing their use (in this case of the groundwater) to the *greater detriment of the others*. Here, the water company (and those that pay for water supplies) is the first user (the winner) and the water environment and people's enjoyment of its benefits the second (the loser). Economic valuation of our 'water commons' needs to embrace not only its value as a drinking water supply but also the environmental value of globally rare Chalk streams and the recreational, commercial, cultural and educational value that Chalk streams offer to people.

OFWAT needs to engage with Natural Capital, recognising aquifers and rivers as economic assets in their own right. Monies spent on substantial and needed improvements in their ecological health would then be

reflected in an increase in asset value. Allocating monetary values to natural resources is a controversial area but OFWAT needs to widen its basic thinking to make all its policies inclusive of environmental assets. Can OFWAT embrace and pilot some of the recommendations of the Dasgupta Report<sup>4</sup>?

Here, as in much of the South and East, where rainfall is low, water has been abstracted unsustainably over many decades. In the 1960s and 1970s, the then water authorities were given licences that took little if any account of environmental impacts. This has now been recognised, with the Environment Agency advising us in correspondence recently that *'Our groundwater model suggests reductions in overall abstraction in the Cam catchment of 60-70% would be necessary to meet environmental flow targets, and hence contribute towards achieving good ecological status under the Water Framework Directive.'*

Water companies currently operate legitimately (in our water cycle) by keeping within their licensed abstraction limits. However, in meeting their obligations to supply all customers, they are not acting responsibly on our behalf - for the environment has deteriorated. The situation will worsen with the growth scenarios envisaged unless water resources are found from elsewhere. Only now, with the establishment of a regional water resources planning framework, does it appear that the Government, regulators and water companies are starting to realise the need for major new investment to this end.

Part of the failure to act sustainably appears to be due to the pricing of water which, if the environmental impacts of abstraction are taken into account, is well below its real cost of delivery. Water is therefore insufficiently valued in public perception, and is too cheap in price relative to its availability (treated and purified tap water is 1,250 times cheaper than petrol). Frankly, water is often squandered by consumers and taken as a 'right', like fresh air. Unwittingly consumers are in turn forced to suffer the true cost of abstraction at present levels: the sustained degradation and disappearance of their local Chalk stream environments and the destruction of their uniquely valuable natural resilience. OFWAT needs to 'think big' therefore, use its pricing powers with wisdom and understanding, and not just assume free market economics will protect a 'water commons'; it will not. An 'environment first' approach means placing far more stress on *ensuring the resilience of the water environment* for its own sake. Indeed, at a recent meeting of Natural Cambridgeshire, Sir David King (former Chief Scientist) made it clear that, in planning any development at all, ensuring 'environmental well-being' should be the prime consideration.

### **How do we best regulate to help companies to achieve long-term goals such as adapting to climate change, reducing leakage, improving water efficiency and delivery of net zero?**

The key to better regulation lies in the setting of targets. These need to be ambitious, graduated, incremental and demanding in nature, and monitored and evaluated regularly. Tariffs need to be linked to targets. OFWAT needs to press for, and support, greater ambition in achieving environment-led targets. We set out below **eight areas** where OFWAT should consider implementing changed practice.

- (a) Saving water.** The water companies actively encourage people to save water. Cambridge Water's current Pledge 15 campaign, supported by a leaflet, seeks a daily household reduction of 15 litres. Past interventions have included offering free water butts and water-saving visits. Affinity Water offers a range of tips and free water-saving items. Anglian Water is asking customers to save up to 20 litres of water per person per day. These efforts are welcome but they lack urgency and may not be effective in reducing consumption very much at all<sup>5</sup>.
- (b) Fixing the leaks.** The National Framework for Water Resources calls for *'planning to achieve leakage reductions of 50 per cent on average by 2050'*. All our water supply companies promise action on leakage, but their planned reductions by 2045 offer savings that are too little and too late. There should be greater urgency about leakage control with more demanding targets, for example to reduce leakage here from 2020 levels by 50% by 2025, 75% by 2035 and 90% by 2040.
- (c) Metering.** Householders often have little idea of just how much water they are using. Cambridge Water bills show the volume of water used in cubic metres and the number of days between meter readings

but do not give a daily use figure. Adding this information, and then showing what this total means if the household comprises 2, 3, 4 or 5 people, would improve awareness and reinforce efforts to save water. Installing a water meter enables customers to monitor usage and brings about savings in water consumption of 9-20%. More and faster action is needed to retrofit meters where they are absent. Customers should be equipped with smart meters that provide a constant visible readout (without having to log into a computer), to help them save water. Targets should be more demanding. For example, at least 90% of supplies should be metered by 2025, and 50% of households and businesses should have smart meters by then, with 100% coverage for both being the target for 2030.

- (d) Restrictions on usage.** Cambridge Water has made hardly any use of temporary use bans and non-essential use bans. The measure that most often signals to the public that water supplies are under threat is the temporary use ban, or hosepipe ban, but the company uses these less frequently than its neighbours. The Cam Valley Forum was deeply offended by Cambridge Water in summer 2019. The River Granta, one of the three rivers feeding the Cam ran dry whilst upstream the river was both augmented heavily and had several inputs of treated wastewater. All this additive flow input disappeared into the ground. Cambridge Water refused to declare a temporary use ban and only later issued a call for water saving. Their defence was that they were within their legal headroom.
- (e) Should local government set water saving targets?** A more resolute approach is needed: demanding baseline savings at all times and further reductions as groundwater levels fall below key 'trigger' points. Experience from another water-stressed city, Cape Town, is relevant here. At one point towards the end of its 2015-18 drought, the city was expected to run out of water and sought to limit water use to 50 litres per person per day. Under a new Cape Town *Water Strategy*,<sup>6</sup> demand is now managed through baseline regulations. These restrictions are progressively tightened. Thus in 2019 the target was 105 litres per person per day. The restrictions target the use of hosepipes, sprinklers in gardens and sports fields, swimming pools, car washes, and water features. Water pressure is halved at 'Level 3' and reduced still further under emergency measures. The restrictions are widely promoted and highly visible. Water levels in the six key supply reservoirs are published weekly<sup>7</sup>. There are also progressive tariffs linked to the targets for water use at each 'Level'; increasingly higher charges apply as consumption rises. In the UK, any suggestion that the price of water should rise appears to be anathema to politicians. This is short-sighted; the UK could usefully learn from other countries that see tariffs as an important tool to encourage wise use of water and discourage profligacy.
- (f) An 'Environment-First' approach as a basis for water licensing.** As noted above, the Environment Agency has advised us that *'reductions in overall abstraction in the Cam catchment of 60-70% would be necessary to meet environmental flow targets, and hence contribute towards achieving good ecological status.'* We accordingly suggest that OFWAT should *question the metric* by which water is currently allowed to be taken from our Chalk aquifer. A Natural Capital approach to 'headroom' would define it on the basis of resource availability, not on the basis of the limits set by historic licences. It is harder to establish the resource availability, but surely an 'ecosystems first' approach is needed? If ecological monitoring of absolute aquifer levels were taken as the base-line, cut-offs could be triggered and savings enforced. Can we not follow the lead from Sir David King and Professor Sir Partha Dasgupta?
- (g) Enforcing new approaches to water sourcing.** The recent *Integrated Water Management Study - Strategic Spatial Options Review* for Greater Cambridge<sup>8</sup>, concludes that *'There is no capacity to increase groundwater abstraction from the Chalk aquifer. Future water demand and supply will need to be balanced in other ways'*, including *'major new regional water supply reservoirs, transfer schemes and land use change.'* The Government and its regulators should respond to this finding by requiring Cambridge Water, Affinity Water and Anglian Water to cap their abstraction of groundwater from the Cam Valley Chalk aquifer at current levels *now* (regardless of their licence entitlements) and to meet all additional requirements through transfers of surface water from elsewhere. OFWAT should also explore the use of pricing mechanisms to encourage the use, where appropriate, of water from lower-quality sources, such as treated wastewater, in place of high-quality water from the Chalk aquifer.

**(h) Wastewater treatment.** The present system of local water recycling generally involves returning treated wastewater to rivers. When river flows are greatly reduced by over-abstraction there is less dilution of the invariably lower quality of ‘treated’ water. The resulting environmental impacts are exacerbated by combined sewer overflows, themselves the result of the failure of urban developments to exclude surface water from sewers. The River Cam in the City of Cambridge is notoriously polluted, threatening the health of the many thousands of people whose recreation on the water is important. This river is well zoned and provides for swimming, canoeing, kayaking, punting and rowing as everyday activities. Current research shows that a much greater investment is needed here to achieve acceptable reductions in microbial pollution<sup>9</sup>. OFWAT needs to take a far more resolute approach in driving up standards of wastewater treatment to tackle eutrophication, which is a particular threat to biodiversity in Chalk streams, and to reduce pollutant loads generally.<sup>10</sup> In meeting the ecological quality targets set by the Water Framework Directive for Chalk streams, action to improve wastewater treatment is an essential complement to action to improve flows.

### **How do we encourage companies to ensure services are affordable for all, both now and in the longer term?**

Pricing needs a more sophisticated model. All water use should be metered, just like electricity and gas. Those households and businesses that use the most water should then pay more. We do not support raising water charges for the poor and those with critical medical needs, but huge amounts of water are used for watering golf courses, by jet-washers, and for cleaning cars and watering gardens, for the sole reason that water is so cheap. Why not have a *Graduated Water Pricing* tariff system, as in South Africa (see above), so that per household charges are upped progressively by the volume used?

### **How can we best align the interests of investors with delivering for customers, the environment and society?**

The answer here is to assess water company plans against sustainable development criteria. This was done years ago by the timber industry (the Forest Stewardship Council, kitemarked ‘sustainably managed woodlands/forests’). Why not kitemark a water company’s performance through such a body as a ‘Sustainable Water Stewardship Council’ on the basis of their environmental performance and credentials? Such approaches are taken in water-stressed areas of America.

Cam Valley Forum  
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<sup>1</sup> Cam Valley Forum (2020) [Let it Flow! Proposals from the Cam Valley Forum for an Integrated Water Resources Management Plan for the Cam Valley](#). Cambridge.

<sup>2</sup> Recent responses are available on the Cam Valley Forum website at <https://camvalleyforum.uk/reports-responses/>.

<sup>3</sup> Hardin G (1968) The Tragedy of the Commons. *Science* 162 (3859): 1243-1248.

<sup>4</sup> Dasgupta P (2021) *The Economics of Biodiversity: The Dasgupta Review*. HM Treasury. London.

<sup>5</sup> Baringa (2019) *How much do people really care about water shortages? Managing customer perceptions and delivering on leakage, metering and water consumption*. Baringa. London

<sup>6</sup> Cape Town Government (2019) [Our Shared Water Future: Cape Town’s Water Strategy](#).

<sup>7</sup> Cape Town Government (2020) [Dam levels](#).

<sup>8</sup> Stantec (2020) [Integrated Water Management Study - Strategic Spatial Options Review](#). Stantec, Cambridge.

<sup>9</sup> Urban L *et al* (2021) Freshwater monitoring by nanopore sequencing. *eLife* 2021; 10:e61504. DOI: [10.7554/eLife.61504](https://doi.org/10.7554/eLife.61504)

<sup>10</sup> Cam Valley Forum (2020) *Written evidence to the House of Commons Environmental Audit Committee Inquiry into Water Quality in Rivers*.