

Anonymous 2 – Written evidence (UKH0013)

Water in Lewes District

This report has been compiled using a variety of sources and every effort has been made to ascertain the veracity of the data. Freedom of information requests have recently been made to Southern Water and South East Water but replies have not yet been received.

The District of Lewes is located within the Sussex Low Weald and the South Downs. The latter is within the South Downs National Park which extends slightly north across the adjoining Weald.

Water supply

It is estimated that every person uses 170 litres of water per day.

The South Downs is the main aquifer for the coastal towns and inland. We in Lewes District receive water from sources owned and operated South East Water and Southern Water. Southern Water has a licence to remove 77,500,000 litres per day from its downland bore holes. South East Water Company has a licence to abstract 5,500,000 litres a day from the boreholes along the foot of the Downs. Their water comes:

73 per cent from groundwater sourced from more than 250 boreholes and wells.

19 per cent from surface water including six river intakes and three surface water reservoirs

8 eight per cent from neighbouring water companies.

Water is pumped from these sources, treated and distributed to customers.

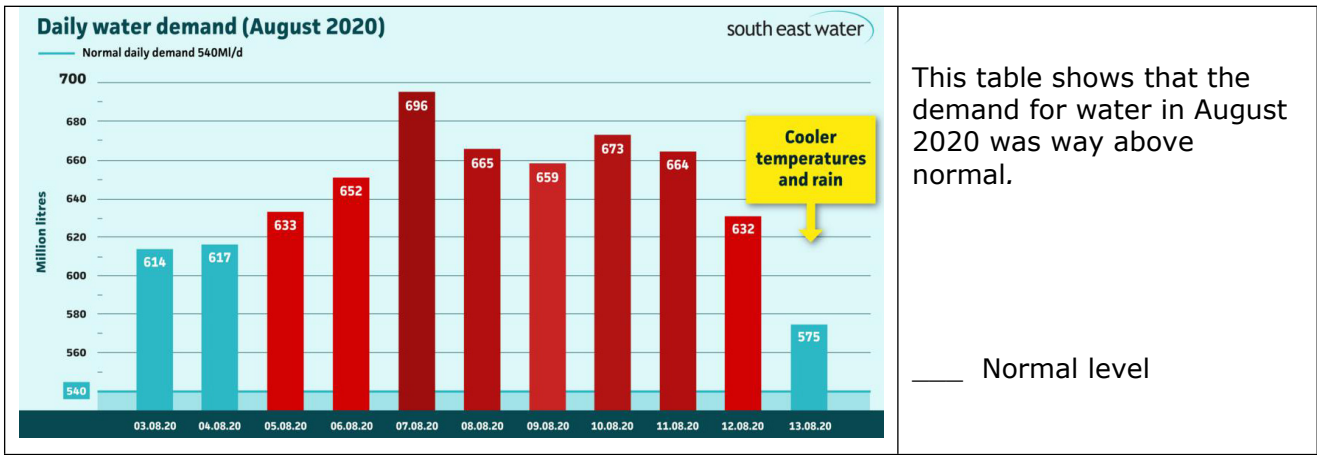
This high level of abstraction has had a damaging effect on the tributary streams from the South Downs.

Saline intrusion: It was known in the 1990s that more water was being taken out from the South Downs than was being replaced by rain which was causing saline intrusion as sea water seeps in underground. The Ouse and Adur Rivers Trust (OART) informed me that on one occasion salt did actually get into the borehole near the Newmarket Inn and released salt into the streams.

The Environment Agency has a table of areas of water stress in different parts of the country. The highest level is 41 (Essex). The South East is level 36 = serious stress.

The Mid Sussex Times and the BBC reported on the Internet regarding the draught in August 2020:

"About 300 properties are said to be affected in Bolney, Bolnore Village, Cuckfield, Haywards Heath, Slaugham and Warninglid. Specialist water tankers have had to be brought in, along with bottled water stations. South East Water said the shortage is due to the extreme demand in water as temperatures hit above 30 degrees Celsius."



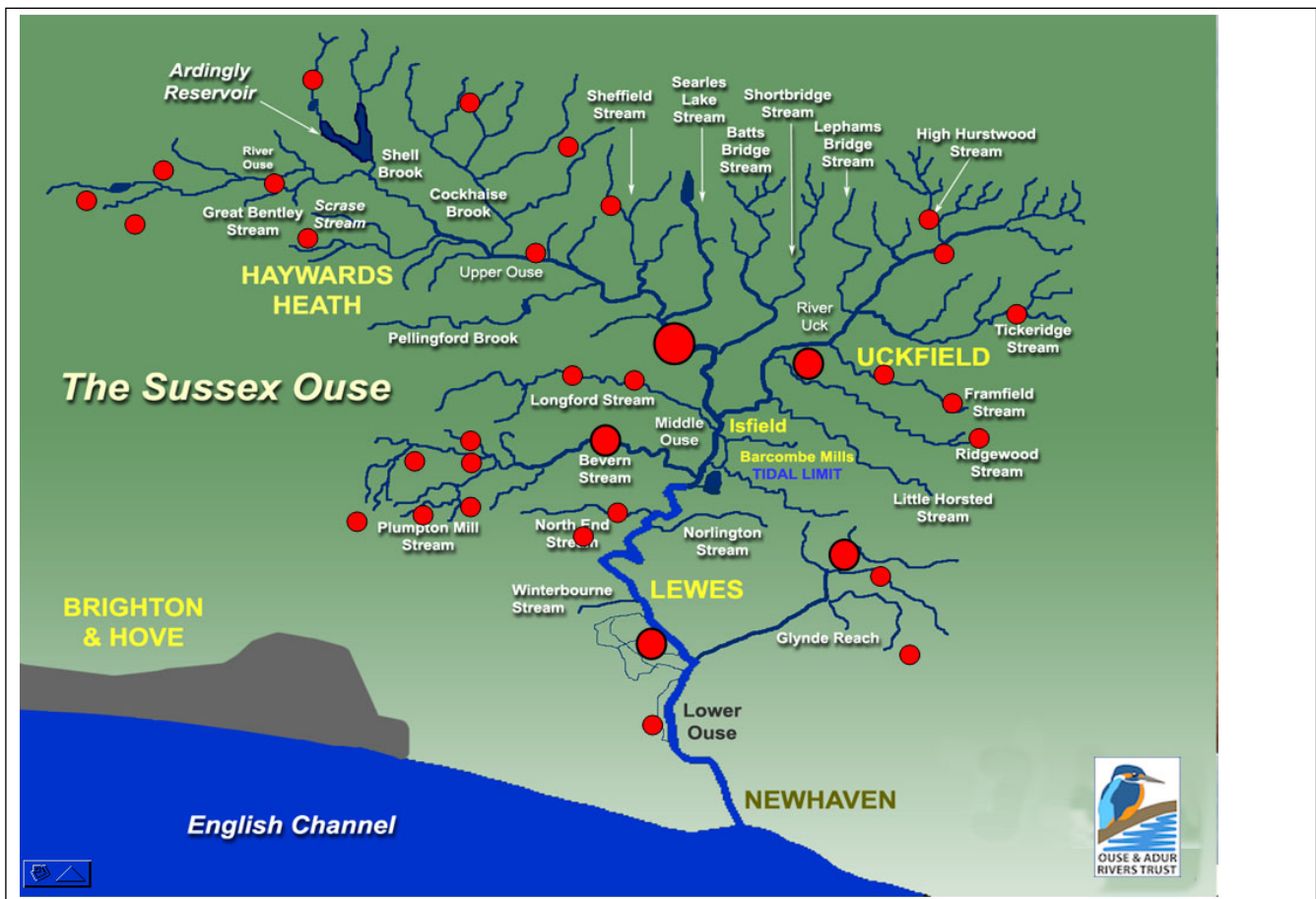
This table shows that the demand for water in August 2020 was way above normal.

It is generally believed that Sussex could be faced with severe water shortages in just ten years' time if predictions from Southern Water prove to be accurate. The National Audit Office (25/3/2020) has called on the government to take further steps to prevent parts of the south of England from running out of water within 20 years.

Building many more houses will worsen the shortage and bring it into effect sooner.

Pollution

There are 35 major sewage treatment works located beside the River Ouse and its tributary streams. On the map supplied by OART the red dots show the locations of major sewage treatment works, discharging in excess of 100 cubic metres per day. The very large dot at Scaynes Hill serving Haywards Heath discharges more than 10,000cm/day (enough to half fill an Olympic sized swimming pool). The medium sized dots > 500cm and the small dots >100cm. There are also many smaller facilities discharging amounts below 100cm. As well as sewage from the area of Lewes District, it also comes from Haywards Heath, Uckfield, and Maresfield.



In times of heavy rain the treatment works cannot always cope and then raw sewage overflows into the River Ouse and its tributaries. If the flow into a sewage works exceeds 7 times the dry weather flow (DWF) the company is deemed to have consent to discharge raw sewage to watercourses via what are known as Combined Sewage Overflows (CSOs), which results in our rivers being charged with pathogenic bacteria and viruses. However, according to a Sussex Ouse Conservation Society (SOCS) newsletter from 2008, on the 23rd June 2008 Southern Water was fined £4,000 plus £845 costs for allowing sewage to enter the Bevern Stream.. In 2017 the CSOs at Barcombe Sewage Treatment Works discharged 64 times. That is more than once a week. In 2018 there were 98 incidents covering a total of 635 hours. That is nearly twice a week, for a procedure that is only supposed to be carried out during "exceptional rainfall". The risk of pollution is not just from harmful bacteria and solid waste but also from dissolved nitrates, phosphates and other dangerous chemicals. There are frequent reports of people, especially children, swimming or falling off paddle boards becoming ill with dysentery. On many occasions large quantities of fish have been found dead in the river.

The concentration of chemicals in the river is exacerbated by the need for water for human consumption, industry and agriculture. The resulting low flows of the tributary streams of the River Ouse are often inadequate to dilute the sewage thereby causing much ecological damage as well as being a threat to human health. In summertime about 60% of the river water at Barcombe Mills is sewage effluent. The water there is then extracted and cleaned to provide potable water.

Chalk streams like the Bevern, a tributary of the Ouse which flows through North Barns Farm, are generally noted for having clean, clear water of relatively stable temperature. They are recorded as priority habitats in the UK Biodiversity Action Plan.

Although the East Chiltington streams are still important breeding sites for sea-trout and several other specialist species, there are now far fewer fish in these streams than in the past. There are several reasons for this:

- Raised water temperature due to climate change.
- Reduced flow because of increased water extraction.
- Surface flooding after prolonged or heavy rain which often gives rise to extensive pollution.
- Ever increasing chronic pollution from sewage effluents and agricultural sources.

The Bevern Stream is polluted from the upstream sewage works at Ditchling and there is also a massive problem with effluent from farm livestock and agriculture which becomes more concentrated when the water flow is low. In times of water shortage the spring at Wellcroft Shaw behind Shirleys in Ditchling stops flowing so nitrates and phosphates become more concentrated causing eutrophication i.e. green algae smothers everything.

According to OART the ecological integrity of the Bevern Stream which flows through the North Barns Farm proposed building site is on a knife edge. Any further reduction in its water supply could reduce it to a stinking ditch.

SOCS Newsletter 2009 reported that storm events, intensive agricultural practices, high faecal loads are increasingly likely to occur leading to odours, risk of infection and gross pollution.

Tuesday 3rd August 2021 at 5.00pm The Times on the internet: "*Southern Water was recently handed a record £90 million fine after pleading guilty to thousands of illegal discharges of sewage that polluted rivers and coastal waters in Kent, Hampshire and Sussex.*"

Meanwhile, the Water Framework Directive (WFD) which originated from the EU has been retained in UK law following the UK's exit from Europe.

The main aims of the WFD are to:

- Prevent deterioration and enhance the status of aquatic ecosystems, including groundwater.
- Reduce pollution.
- Promote sustainable water use

The objective of the WFD was to bring the standard of all European water bodies up to "good" by 2015. That timetable was highly ambitious and so two further six-year river basin management plans are in place, taking implementation of the WFD's objectives up to 2027. The requirement to develop a second River Basin Management Plan running from 2021–2027 is set out in domestic law and so the UK's obligations to produce a plan still apply. The River Ouse is considered to be not up to the required ecological status. There are a number of reasons including phosphates from detergents.

Many more houses will further increase the sewage load beyond the capability of the treatment works and so increase pollution and worsen the ecological status of the Ouse catchment.

Flooding

In most years there are spells of heavy rain which causes excessive run-off from the heavy clay fields and even more so from built up areas where tarmac and paving cannot absorb water into the ground. As a result there is excessive run-off which frequently gathers across low lying roads. Examples are under the railway bridges of Novington and Allington Lanes. In Highbridge Lane and Plumpton Lane where the Bevern Stream flows under the road, and in a number of places along the A275 Lewes to Chailey Road and the B2116 Lewes to Ditchling Road. And always at Barcombe Mills. These floods are often deep enough to close the roads to traffic.

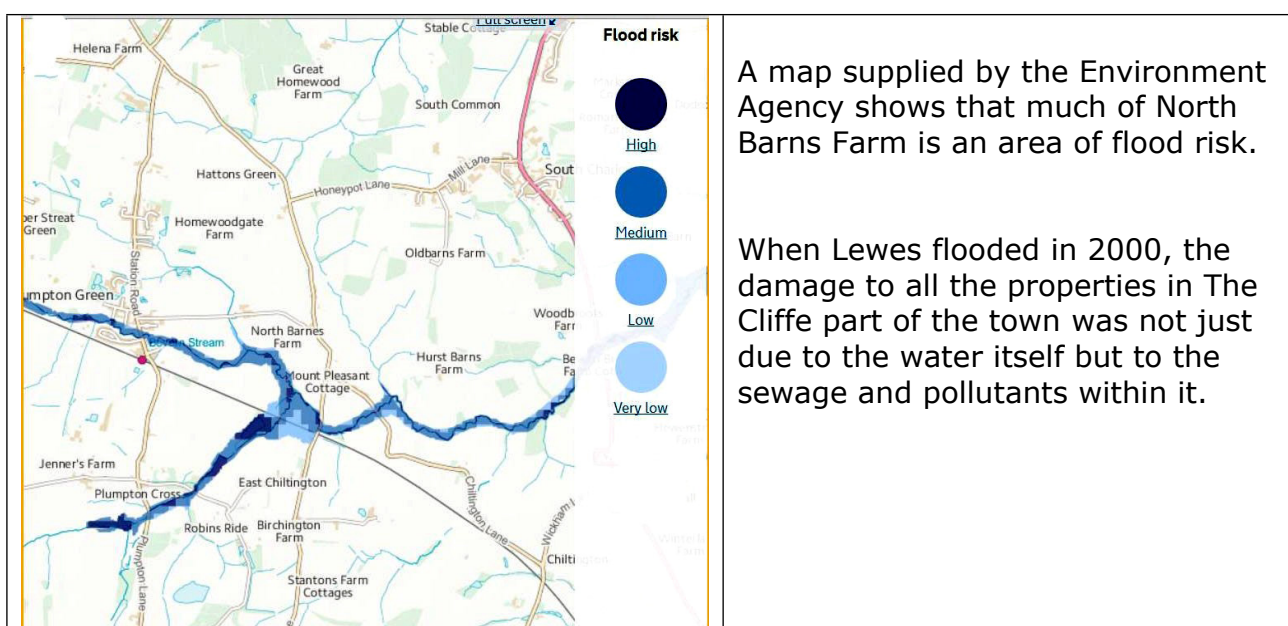
The grass verges alongside all the narrow lanes become dangerously eroded when sodden so that cars pulling aside to let others pass are likely to damage the underside of the vehicles on the edge of the tarmac.

The Sussex River Ouse Catchment Management Plan 2009 states: *The scenario which has the greatest effect on future flood risk is climate change with up to 20% increase in peak flood flows. The predicted increase in urban growth relative to the River Ouse catchment area is small and as a whole the catchment is not particularly sensitive to this level of change in urbanisation.*

Risk currently managed by: *Development control to influence spatial planning so that new developments are sited away from flood risk areas or take appropriate mitigation measures and do not make flooding worse for anyone else.*

Future management: East Chiltington is in the *Low Weald* area of low to moderate flood risk to people and property so Policy 2 applies It may no longer be value for money to focus on continuing current levels of maintenance of existing defences if we can use resources to reduce risk where there are more people at higher risk. Maintain existing level of maintenance within the communities of Ringmer, Plumpton Green and Wivelsfield Green, looking for efficiencies and improvements to ensure the existing flood risk to these communities does not get worse in the future. (Banks alongside streams.)

It is recognised that flood risk will change in the future, and management actions may change in time to gain efficiencies or improve effectiveness.



The East Sussex County Landscape Assessment describes the Low Weald as: "*broad low lying, gently undulating clay vale underlies a small-scale intimate landscape with an intricate mix of copses and shaws, a patchwork of fields and hedgerows.*"

The next Local Plan must respect this.

After heavy rain *THE ROADS FLOOD*



Plumpton 2015



Highbridge Lane 2016



Novington Lane 2013



A275



B2116



Beechwood Lane 2013



Barcombe Mills 2019



Lewes 2000



Lewes 2000

Photos by Andy Thomas

How will people get to work?

August 2021