River Water Quality

Response to the Environmental Audit Committee Inquiry

February 2020

About Yorkshire Water Services Limited

1. Yorkshire Water manages the collection, treatment and distribution of water in the region, supplying around 1.24 billion litres of drinking water to over five million people every day.

2. We have 2,500 colleagues and rely on a huge network of more than 700 treatment works, 130 reservoirs and 62,000 miles of mains to transport water around the whole county using our unique grid system.

3. We have more than 2000 storm overflows, 96% of which are fitted with Event Duration Monitoring.

4. We have an extensive environmental programme which amongst other things is delivering improvements to river water quality, improving biodiversity, tackling invasive species and improving fish passage in rivers in Yorkshire.

5. Yorkshire is also home to the first inland bathing water designation on a river with the recent designation of a stretch of the River Wharfe at Ilkley.

Introduction

6. Significant progress has been made in improving the health of our rivers in recent decades and we are already seeing the return of iconic species such as salmon to places like the River Don in Sheffield.

7. However there is clearly more that needs to be done in order to achieve Good Ecological Status and deliver a thriving river environment that supports wildlife and is accessible for people to enjoy.

8. We recognise that water companies have a key role to play by protecting rivers from any harmful impacts from our sewer network and we are committed to playing our part.

9. Delivering against this commitment will be crucial in building trust in the water industry and it is a challenge that the industry cannot shy away from.

10. There are a number of legal and regulatory changes which are needed to support water companies in delivering the investment required to reduce the impact of storm overflows and these are outlined in our response below.

11. It is also important to recognise that whilst water companies have a key role to play, this is not an issue that is exclusively the responsibility of water companies. Legal changes, as well as action by a number of other agencies will be required.

The challenge

12. The sewer network and system of storm overflows were designed to prevent sewer flooding in a combined system that also takes surface water from impermeable area such as highways, rooves and drives.

13. We are now seeing a combination of factors, from urbanisation to climate change frequently testing the design and capacity of our network. At the same time, increased awareness of the operation of storm overflows is driving an important debate on what society sees as acceptable.

14. In Yorkshire, the population is expected to have increased by 855,000 people over the next 25 years – increasing demand on the system. Increased heavy rainfall events driven by climate change are also putting greater pressure on the network.

15. The current debate on the acceptability of discharges from storm overflows can also be seen as a triumph of transparency. The installation of Event Duration Monitoring (EDM) and the release of this data, both through open data approaches taken by water companies and via increasing use of Environment Information Regulations (EIRs) has increased awareness of the operation of storm overflows and has rightly led to a public debate on their acceptable use.

16. This debate has been led to a consensus that action should be taken to reduce the number of spills from storm overflows. However, the scale of the challenge, both in terms of reconfiguring the sewer network which has been designed on the same principles for many decades, and the level of investment this will require means we believe more debate is needed in order to help refine the priority order in which some issues are addressed.

17. There are two areas of focus in the current debate, each of which takes you in a different direction in terms of prioritising the interventions made and the locations that are prioritised.

18. On the one hand, there is the desire for wild swimming and bathing water status which looks at river water quality from a public health perspective. This approach would drive further bathing water designations and would result in investment in solutions like UV treatment at sewage treatment works, prioritised by locations where public use of rivers is highest.

19. It should also be noted that this approach comes with environmental trade-offs as options like UV treatment are very energy and therefore carbon intensive and therefore have a negative impact by contributing to climate change.

20. The other focus of the debate is focused on concern around the environmental impact of discharges from storm overflows. Existing regulations already take this into account through the Water Industry National Environment Programme (WINEP) Frequently Operating Overflows (FOO) programme which looks at environmental impacts, but which recognises that a larger number of spills does not necessarily equate to poor environmental status.

21. If the desire is to reduce environmental impact, then tightening the criteria around the FOO programme would be one way to increase investment drivers. However, this could drive priority investment in different locations to a focus on bathing waters and public health.

22. At the same time, there are other wider debates that need to be had. For example, reducing demand on the sewer network doesn't just mean investing in upsizing the sewer network, but also in removing surface water. This means surface water needs to go somewhere, and this means environments may start to look different as a result of surface water being much more visible, for example through the delivery of Sustainable Urban Drainage Systems (SuDS) that remove or attenuate flows to the sewer network. It is important to involve communities in these discussions as fundamental changes to how we deal with surface water will alter their local environment significantly.

23. In Yorkshire, a partnership has been established to deliver improvements to the River Wharfe, partly in response to the recent bathing water designation. This partnership includes Yorkshire Water, the Environment Agency, Bradford Council, Yorkshire Dales Rivers Trust, Yorkshire Wildlife Trust, NFU and CLA. This partnership will be working to engage with communities around the Wharfe to help understand local priorities, to ensure that activities deliver against these, as well as statutory objectives. Work is already underway through a citizen's jury established by the Environment Agency, but the partnership will be working to build on this with wider engagement projects.

24. This discussion with local communities is vital in helping to prioritise action and it is quite likely that a one size fits all solution will not be appropriate. In some areas bathing water designation may be an appropriate tool. However, in other places this may not be the best approach as the additional requirements associated with bathing status, such as the requirement for local authorities to produce water safety strategies, may be disproportionate.

Addressing the challenge

Increasing transparency

25. The increased interest and scrutiny on the use of storm overflows is partly down to the increased availability of data on how often discharges occur thanks to the installation of Event Duration Monitoring (EDM).

26. Yorkshire Water has gone beyond the regulatory minimum standard and has so far installed EDM on 2150 permitted storm discharges, which is approximately 96% of the total. We have invested over £7m in the past five years to deliver this.

27. This has provided us with more information on our network and feeds into a risk-based approach to investigation, prioritisation & delivery of storm overflow improvements via the WINEP Frequently Operating Overflow (FOO) Programme.

28. We are investigating the cause and environmental impact of 158 FOOs during AMP7 (2020-2025). The delivery of improvements will be AMP8 (2025-2030), and there are likely to be many more investigations in AMP8 delivered through the programme.

29. Now that the data is more available, it is important to make it accessible to ensure that companies are held to account for their performance. In 2018 Yorkshire Water made a commitment to be open data by default and since then we have been releasing information on our performance through Data Mill North.

30. The recent announcement by the Storm Overflows Taskforce – made up of Defra, the Environment Agency, Ofwat, Consumer Council for Water, Blueprint for Water and Water UK that companies will publish annual monitoring data on their use of storm overflows builds on this approach.

31. Part of our proposed action plan for the River Wharfe includes a pilot smart wastewater networks project which will provide much more information on the performance of our sewer network.

32. Part of the challenge however is ensuring the vast amount of data is validated and accurate in order to give an accurate picture of what is happening in the network. The fact that EDM has only recently been installed in many areas has meant that some of the early data has required additional validation and calibration, however the reliability of data should improve over time.

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Removing surface water from the sewer network

33. Discharging storm overflows are a symptom of high demand on the system. The most sustainable solution is to focus on addressing the causes of this high demand and not on end of pipe treatment or increasing storage in the network, both of which are more complex, expensive and potentially environmentally less sustainable.

34. Therefore, the biggest factor in reducing the number of spills from storm overflows is how far we are able to remove surface water from the sewer network. Reducing surface water would significantly reduce the pressure on our systems and reduce the need for the pressure release valve role that storm overflows play.

35. This approach requires widespread partnership working across the whole catchment. Local authorities, the Environment Agency and others all have a role to play, both in separating surface water from the network, and finding somewhere for that surface water to go safely.

36. In Ilkley, one project by Yorkshire Water, the Environment Agency and Bradford Council to remove surface water infiltration into the sewer network from the moorland around Ilkley and Ilkley Tarn could reduce spills from storm overflows into the River Wharfe by around 20%.

37. This approach has the benefit of avoiding the need for large scale reconfiguration of the sewer network. Separating out surface water also usually involves the use of nature-based solutions, which not only help to reduce flood risk and the need for storm overflows, but which also provide environmental and amenity benefits for the local area.

38. However, the current regulatory system is not always designed in such a way as to incentivise nature-based solutions. The current system has been very effective at driving value for money and protecting the interest of customers. However, that approach now needs adapting as it contains an inherent bias towards traditional engineering solutions which can be more easily evaluated, and which provide more certain results. The setting of desired outcomes and greater flexibility over how

those outcomes are achieved would drive more innovation and support a move to more sustainable nature-based solutions.

39. Partnership working and the increasing use of nature-based solutions will also need a more flexible approach to assessing the value and status of assets. Traditional engineered assets which sit on water company books are straightforward to assess in terms of whole life cost and easy to regulate in terms of their outputs. In future we'll need to use more unorthodox assets some of which we'll share with other partners. Regulatory accounting can't recognise this type of asset as it stands and there is therefore a disincentive to invest and innovate in this way.

Reforming planning to reduce surface water impact

40. In addition to removing existing surface water from the sewer network, it is also vital to ensure that new developments do not continue to add more pressure on to the sewer network.

41. Removal of the automatic right for a new development to connect to public surface water sewers was a recommendation of the Pitt Review following the 2007 floods, but was never actioned.

42. We would like to see the Government commence the part of the Flood and Water Management Act that removes the right to connect surface water from new developments into our sewers.

43. This would help to reduce demand on the network and would drive greater use of sustainable drainage systems, which would have wider flooding and resilience benefits.

44. Consideration should also be given to how highways authorities can be incentivised to disconnect highway drainage from the sewer network. Installation of sustainable drainage is likely to be most cost beneficial when removing connections from large area of impermeable surfaces such as roads and car parks.

45. We are also currently developing our first Drainage and Wastewater Management Plan which, in working in partnership with others, will identify our long-term drainage and wastewater plans to meet future pressures such as climate change and population growth. These plans will help to identify areas where there are particular challenges to address.

Further reducing demand on the sewer network

46. As well as removing surface water from the sewer network, there are other ways to reduce demand on sewers and consequently the number of spills from storm overflows.

47. One way to do this is reduce the amount of water used by households and therefore reduce the amount of foul water discharged to sewers. Reducing household consumption is vital in ensuring resilience of water supplies in the face of climate change and is an important policy objective, regardless of the impact on the sewer network. However, the consequential impacts on the sewer network should not be ignored.

48. In 2019 the Government consulted on measures to reduce personal water use. To date the implications of Covid-19 have meant the response to this consultation has been delayed.

49. The most significant step the Government could take to reduce water use is to establish a mandatory water labelling scheme for domestic appliances and linking this to building regulations. Research by Waterwise shows that labelling is the single most cost-effective thing the government could do to reduce personal water use, which is vitally important for the long-term resilience of our water supplies.

50. Research from the Energy Savings Trust found that a government-led mandatory scheme linked to building regulations and minimum standards is projected to reduce per capita water consumption by 6.3 litres per day within 10 years, rising to a saving of 31.4 litres per day after 25 years.

Reducing blockages

51. Most of the time storm overflows discharge in the conditions they are designed to operate i.e. when the capacity of the network has been reached. However, blockages in the network can also cause storm overflows to discharge outside of storm conditions.

52. Our *Bin It! Don't block it!* campaign has been successful in raising awareness of the impact of disposing of inappropriate items, however with 40% of blockages caused by wet wipes, including so-called flushable wipes that don't break down in the sewer.

53. We would like to see the Government take action to prevent wipes manufacturers labelling or selling products advertised as 'flushable' if they don't pass the official 'Fine to Flush' standard.

54. In addition to working with household customers, we have also been working with SwiftComply and York City Council, to trial a web and app-based platform which supports engagement with Food Service Establishments (FSEs) to understand Fats, Oils and Greases (FOGs) management practices.

55. The SwiftComply platform puts FSEs in contact with waste management companies and enable the FSE to more effectively manage their Grease Containment Devices (GCD).

56. Yorkshire Water would have access to the data within platform to enable us to more effectively monitor and investigate FOG problems within the sewer network.

57. The ultimate objective is to reduce disposal of FOG to sewer, preventing blockages, flooding, pollution, disruption from sewer repair and maintenance and also to stimulate the 'FOG to Fuel' energy from waste market.

Funding the investment required

58. Some of the changes outlined above will require significant investment, and a large proportion of this is likely to fall to water companies to deliver. If this is to happen, regulation will need to allow companies to invest significantly over the long term.

59. This would represent a change from the current approach, which has focused on keeping bills low for current customers and which led us last year to take the decision not to accept our final price review determination from Ofwat and to ask for it to be reassessed by the Competition and Markets Authority (CMA). We did this because we felt Ofwat's determination did not protect the long-term resilience of Yorkshire and pushed the cost of vital infrastructure investment on to future generations.

60. The current approach was also highlighted as a barrier to long term investment in water supply resilience by the Public Accounts Committee in their 2020 report, which concluded that "Water companies have had little help from government in how they resolve the tension they face in balancing their plans for investment with the need to keep bills affordable, especially where they feel they have good evidence on their customers' willingness to pay for long-term resilience."

Conclusion

61. We welcome the current debate on improving the health of our rivers and we recognise that water companies have a key role to play. We understand that the way the system was designed and has operated for many years is no longer in line with society's views and we are keen to play our part in addressing this.

62. However, there are a number of measures which we would like to see taken to support achieving the aim of cleaner rivers.

63. Further public debate is needed to understand the public's view on rivers. This will allow better targeting of immediate action and investment and will ensure that the solutions that are put in place are the most appropriate and proportionate for the desired outcome.

64. The approach to reducing harm from storm overflows should be focused on reducing demand on the sewer system, rather than building larger sewers or increasing levels of treatment, both of which come with environmental trade-offs which may be more damaging than the problem they are trying to solve.

65. Changing how we deal with surface water and redesigning drainage systems is a substantial task which will take significant amounts of time and money from a number of different organisations. It is important to be ambitious and challenging, but also realistic about how fast things can change.

66. Delivering these outcomes will also require changes in regulation to allow water companies to invest in different types of assets, delivered through a catchment approach in partnership with others. Regulation will also need to accept that this is a challenge that requires significant investment, and which will be at odds with the current focus on lowering bills.