



| Environment and Communities Scrutiny Committee | |
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| Report Title: | Environment Agency: roles and actions to monitor and improve water quality in Gloucestershire's rivers – to support discussion of the Council's Motion 864 to "Restore our Rivers" |
| Meeting Date: | 9 December 2020 |
| Chair: | Cllr Rob Bird |
| Presenting Officer: | David Hudson – Environment Agency |
| Purpose of Report: | To explain roles and actions to monitor and improve water quality in Gloucestershire's rivers – to support discussion of the Council's Motion 864 to "Restore our Rivers". Information is included on storm overflows and bathing water to reflect particular interests raised previously. |
| Background documents: | n/a |
| Appendices | Appendix 1 – map showing the quality of rivers under 2019 Water Framework Directive classifications and the status of rivers across Gloucestershire. |

1. Background

- 1.1. As the environmental regulator, protecting England's rivers, lakes and seas is a top priority for the Environment Agency. We are working hard to balance the needs of the environment and people, working with water companies, farmers and others to ensure that the environment is protected.
- 1.2. It is the responsibility of the water companies to meet the environmental standards and targets set by the Environment Agency. We make it clear to companies what is expected of them and regulate robustly when failings occur.
- 1.3. The Environment Agency is working with the water companies to reduce pollution, tackle the areas of biggest concern like combined sewer overflows, and invest in an improved water environment: the companies are putting in £5bn over the next five years to do that.
- 1.4. The Secretary of State met water company CEOs in September and made clear that the volumes of sewage discharged into rivers and other waterways in extreme weather must be reduced. The Environment Agency's Chair Emma Howard Boyd will be meeting with water company Chairs separately to discuss their performance and how we can work together to drive better performance.
- 1.5. Where regulations are breached we will take appropriate action in line with our enforcement and sanctions policy. Nationally the EA has brought 44 prosecutions against water companies in the last five years, securing fines of £34 million.
- 1.6. The government has also created the requirement for a legally binding, long-term water quality target in the Environment Bill.

2. The Environment Agency's role

- 2.1. The Environment Agency regulates the water and agriculture industries, and monitors river water quality.
- 2.2. The two biggest sources of pollution affecting England's water environment are water companies' sewage management and diffuse pollution from agriculture.
- 2.3. As part of the River Basin Management planning, the Environment Agency has assessed the impact of sewage discharges on the water environment, along with the impact from other sectors such as Agriculture. This assessment is published on gov.uk as part of the Environment Agency's consultation on the choices and challenges associated with River Basin Planning:
<https://consult.environment-agency.gov.uk/environment-and-business/challenges-and-choices/consultation>
- 2.4. Through regulation, enforcement, financial incentives and educational schemes, the Environment Agency is improving poor farming practices which

lead to water pollution. The Government's new Environmental Land Management scheme, rewarding farmers for public goods, will be a critical part of that.

2.5. The Government's 2018 Farming Rules for Water for all farmers in England are designed to help protect water quality by standardising good farming practices and require farmers to: keep soil on the land, match nutrients to crop and soil needs, and keep livestock fertilisers and manures out of the water. We take a targeted regulatory approach.

Water industry:

2.6. The EA regulates water and sewerage companies to ensure they comply with the law and protect the environment. We set permits and issue licences to control the level of impact water companies are allowed to have on the environment. Water companies have:

- abstraction licences which allow them to take water from the environment
- water discharge activity and groundwater activity permits which allow them to put treated waste water back into the environment
- permits or other regulatory controls which allow them to dispose of, or use, sludge or other waste
- duties to manage their impact on flood and coastal risk and the environment

2.7. We track performance for each water company annually using the Environmental Performance Assessment (EPA). It uses a number of environmental metrics to compare performance between the water companies and across years. We invite CEOs from each company to attend an annual performance review with our Executive Directors. We also want customers to engage and challenge their water companies to reduce their impact on the environment.

2.8. We recognise that each company has different operational challenges but companies are still required to meet their environmental obligations. We are encouraged that Severn Trent achieved the highest level of performance, 4 star, showing it is possible to reverse deteriorating or plateauing company performance. Thames Water achieved a 3 star performance.

2.9. In 2019 and 2020 in Gloucestershire all Severn Trent sewage works complied with their permits. This is a significant improvement from 2018 and follows changes to their management approach and ways of working. They have also been more proactive in checking for and clearing blockages to reduce pollution incident and being more incident ready. The Environment Agency held them to account and are pleased with the improved performance.

3. Storm Overflows – what are they, the new Taskforce and Event Duration Monitors

3.1. Defra has set up a new Storm Overflows Taskforce comprising Defra, the Environment Agency, Ofwat, CCW, Water UK and Blueprint for Water, with the aim of setting out clear proposals to reduce the frequency and volumes of sewage discharged into rivers and other waterways in extreme weather.

- 3.2. Storm overflows allow excess surface water and sewage to be directed away from homes during rainfall events.
- 3.3. Environmental Permits on water company assets authorise the discharge of dilute storm sewage during times of heavy and persistent rainfall.
- 3.4. These discharges take place via storm overflows. Discharges are not a sign that the system is faulty or being misused – the storm overflows are acting as relief valves to ensure the sewerage system is not overwhelmed which could otherwise lead to homes being flooded and damage to valued possessions.
- 3.5. Storm sewage discharges (from Combined Sewage Overflows (CSO)) are necessary because England has a 'combined' sewerage system in many urban centres which convey both rainwater and household wastewater within the same pipes to a sewage treatment works. During heavy rainfall the capacity of these pipes can be exceeded many times over. In some areas groundwater infiltration into sewers may continue after heavy rainfall has stopped, continuing the use of CSOs beyond the immediate storm.
- 3.6. Storm overflows are operating more frequently across the country due to housing growth (more waste water produced) and climate change (more frequent storms) leading to more water and wastewater in the system. They are in operation for 3% of the year – a figure which water companies are working to reduce with our support.
- 3.7. We will always intervene if water companies breach their permit conditions – these make clear that water companies must not cause significant damage to the environment.
- 3.8. We are ensuring event duration monitors (EDMs) are installed on the vast majority of Combined Sewer Overflows (CSOs) by the end of 2020 (they have been installed on 13,000 out of 15,000 CSOs). EDMs measure the performance of storm overflows in terms of how often and for how long they spill which allows high risk overflows to be identified and allows trends in performance to be assessed. This information is used to inform future improvement programmes for storm overflows.

4. Role of Ofwat

- 4.1. Ofwat is a key organisation to engage with to drive improvements in how water and wastewater is managed.
- 4.2. Ofwat is the economic regulator of the water sector in England and Wales. The Water Industry National Environment Programme (WINEP) – see below - includes investments to protect the water environment. It is included in water company business plans and is considered by Ofwat in the determination of water company prices.
- 4.3. Investment funding includes contributions from everyone's bills indicating we all have a role to challenge and encourage best practice by water companies.
- 4.4. Defra and the Environment Agency work with Ofwat to bring the poor performing companies up to our expectations, including through appropriate

financial penalties; and to support the investment needed to ensure clean and plentiful water over the coming decades.

5. The Environment Agency's work

- 5.1. Across the country we are strengthening our regulatory action – include the requirement of each water company to develop, publish and implement a Pollution Incident Reduction Plan (PIRPs) this year.
- 5.2. The 2015 river basin management plans confirmed £3 billion investment over the period to 2021. In England this has led to over 5,000km of surface water being enhanced during this time, moving towards the target of 8,600km by 2021.
- 5.3. We monitor rivers and assess their quality to drive plans for improvements. Since 2015/2016 reporting year, up to and including Q1 of 2020/21, the Environment Agency has worked with water companies and other partners to enhance 6774km of waterbodies across the country and protected a further 2225km.
- 5.4. The map in appendix 1 shows the quality of rivers under 2019 Water Framework Directive classifications and the status of rivers across Gloucestershire.
- 5.5. Water companies have 5 year Asset Management Plan (AMP) cycles. The previous and current cycles (AMP 6 and 7) have focused on reducing level of phosphate discharged from sewage treatment works. The table below shows the reduction in phosphate loading from the measures delivered in AMP6 at two sample points in the River Leadon.

| | Pre-AMP6 Phosphate Load* (kg/d) | Pre-AMP6 Sewage Treatment Works (STW) Load (kg/d) | Post-AMP6 Phosphate Load* (kg/d) | Post-AMP6 STW Load (kg/d) | Pre-AMP6 STW % Contribution | Post-AMP6 STW % Contribution |
|----------------------------|---------------------------------|---|----------------------------------|---------------------------|-----------------------------|------------------------------|
| Leadon @ Upleadon | 7.6 | 4 | 5.5 | 1.9 | 52% | 35% |
| Leadon @ Wedderburn Bridge | 53.9 | 49.3 | 14.2 | 9.6 | 91% | 68% |

*Total load includes that from sewage treatment works (STW) and livestock and arable farming

6. Work by the water industry

- 6.1. Since privatisation of the water industry, around £25 billion has been invested to reduce pollution from sewage, covering improvements in sewage treatment and in sewer overflows. This investment has secured significant environmental benefits.
- 6.2. Over the next four years (to 2025) we expect them to deliver on the promised £4.6bn investment to protect and enhance rivers and beaches, as well as redouble their efforts to reduce pollution, protect more properties from sewer flooding and increase resilience to drought.

7. Plans and Partnerships

River Severn Partnership (RSP)

- 7.1. With a changing climate, where extremes in weather are becoming more pronounced and frequent, partners spanning Mid Wales, Shropshire, Telford and Wrekin, Herefordshire, Worcestershire, Warwickshire and Gloucestershire, have come together to form the River Severn Partnership.
- 7.2. The partnership will look to help people, businesses and the environment along the River Severn to be prepared and resilient to the impacts of climate change, across an area which covers the Rivers Severn, Teme, Warwickshire Avon and the Wye. Proposals to do this include; options for flood risk management, improving water quality, environmental enhancement and developing an integrated approach to water resource storage and management.
- 7.3. The Partnership includes the Environment Agency, Local Authorities, Local Enterprise Partnerships, Severn Trent Water, Water Resources West, Natural Resources Wales and is working with other key partners and research institutions. More information will be available on the River Severn Partnership website (to be launched in December).
- 7.4. The Partnership would be able to support water quality improvement plans required if any waters were designated as bathing waters (see below).

Catchment Area Based Approach (CABA)

- 7.5. Defra's Water Environment Improvement Fund is being used to tackle river pollution.
- 7.6. The Environment Agency distribute the funding through Catchment Partnerships for suitable projects. The Severn Vale CABA partnership is led by Severn Rivers Trust and Gloucestershire Wildlife Trust and includes the Environment Agency as a key partner.
- 7.7. Partners can bring forward projects – for example Gloucester City Council is involved with river restoration projects and Gloucestershire Wildlife Trust is promoting rain gardens to slow the flow of water into the drainage system.

7.8. We also work with the Farming and Wildlife Advisory Group (FWAG) – to advise on best practices and reducing soil run off – and with Natural England who lead the Catchment Sensitive Farming programme.

8. Bathing waters

8.1. Designated bathing water sites are classified each year. Being able to let people know about water quality means informed decisions can be taken on where and when to swim.

8.2. Rivers and other open water locations that are not designated as bathing waters are managed for the purpose of protecting fish and wildlife so health risks from swimming at these locations may be higher than at designated bathing waters.

8.3. Coastal and inland sites, including rivers, are eligible for consideration as designated bathing waters and applications from local authorities are welcome.

8.4. The key for a designation is high usage – or being able to show potential high usage and how a designation could bring economic benefit. The county council could consider be suitable locations to propose in Gloucestershire. Currently no river locations in England have been designated as bathing waters although there has been consultation for an application covering part of the River Wharfe in Ilkley. Parts of the upper Avon in Warwickshire are also being considered for bathing.

8.5. Please note current water quality is not taken into account in designation applications to the Secretary of State. When designated, the Environment Agency then has a role - to assess water quality and identify remedial action needed to bring improvements.

8.6. Defra and the Secretary of State decide on designation applications. (There is guidance on applying for the designation on [Gov.uk](https://www.gov.uk))

9. Note on Covid-19 in waste water:

9.1. A recently published paper from Bangor University (Professor Davey L Jones) on the shedding of Covid-19 virus in faeces and urine and its potential role in person-to-person transmission suggests the likelihood of infection due to contact with sewage-contaminated water is extremely low or negligible.

9.2. This is in line with other existing evidence, which is under continual review by UK Government expert advisory groups. It is also in line with risk assessments made by the World Health Organisation and the UK Government.

- Evidence is still emerging about Covid-19 and the government is working with leading scientists to examine this issue further as additional studies are carried out on the link between evidence from sampling waste water and the number of Covid-19 cases in communities.