



Department  
for Environment  
Food & Rural Affairs

# Consultation on the Government's Storm Overflows Discharge Reduction Plan

31 March 2022

We are the Department for Environment, Food and Rural Affairs. We're responsible for improving and protecting the environment, growing the green economy, sustaining thriving rural communities and supporting our world-class food, farming and fishing industries.

We work closely with our 33 agencies and arm's length bodies on our ambition to make our air purer, our water cleaner, our land greener and our food more sustainable. Our mission is to restore and enhance the environment for the next generation, and to leave the environment in a better state than we found it.



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# Foreword

Improving water quality is a priority for this government. Our rivers are the arteries of the country, with historic connections to the heart of many of our communities. They provide us with water to drink, irrigation for our crops, and provide us with much enjoyment whether it be through angling, swimming, canoeing or paddleboarding and much more. Clean and plentiful water is vital for all life, it is beholden upon us to look after it and it will be an important part of delivering our commitment to halt nature's decline by 2030.

We are the first government to take action to tackle sewage overflows, a historic infrastructure issue. We have been clear that water companies' reliance on overflows is unacceptable and they must reduce their harm as a priority, as we first set out in our draft Strategic Policy Statement to Ofwat in June which is now in force. A call to action from the Storm Overflows Taskforce has already led to £144 million of new, additional investment on storm overflows, on top of £3.1 billion of water company investment from 2020-2025. The Storm Overflows Discharge Reduction Plan builds on that, alongside other duties in the Environment Act, by setting out our clear proposals for a significant shift in ambition.

This will be the largest investment and delivery programme to tackle storm sewage discharges in the history of the water sector and it is critical in the drive for clean and plentiful water. During the passage of the Environment Act we committed to delivering this work, in a way that took into account the potential impact on the public and consumer bills. Ofwat will carefully scrutinise plans for investment, to ensure value for money and customer support. We believe our proposals take an appropriate balance to ensure that we invest for the long term, whilst minimising impacts and disruptions as much as possible.

The targets we have set on storm overflow reductions aim to capture the main priority outcomes: protecting the environment and protecting public health. We want to see our rivers restored, with more people being able to enjoy them. This is all part of our work to leave the environment in a better state than we found it for future generations.



A handwritten signature in blue ink, appearing to read 'Rebecca Pow'.

**Rebecca Pow MP**

Parliamentary Under Secretary of State for Nature  
Recovery and the Domestic Environment

# Background

## Our sewer systems

Our original sewer systems were designed by the Victorians and were combined, with one pipe to take away both sewage and rainwater when it rains. Modern sewers installed since the 1960s contain two pipes, to keep separate the sewage collected from homes and businesses, and the rainwater from roofs and other impermeable areas like patios and pavements. However, because many of our core sewer systems are combined, the separated rainwater pipe is still sometimes connected to the combined sewer system even for new developments built today. There are around 100,000 kilometres of combined sewers in England – this is enough pipework to go two and a half times around the Earth.

## Water industry investment cycles

Most water and sewerage services in England and Wales are not provided in competitive markets and water services are largely provided by licensed monopoly companies. Because competition is limited, it is necessary to control the prices companies can charge their customers and this is regulated by Ofwat. Reviews of these price limits are set every five years, and hence any new water company investment is planned in five-year cycles. The next wholesale price review period is 2025-2030.

## Storm overflows

Storm overflows are safety valves built into the combined sewer system to discharge excess sewage to rivers, lakes, or the sea when rainfall exceeds capacity. This protects properties from flooding and prevents sewage backing up into streets and homes during heavy storm events. A growing population, an increase in hard surfaces and more frequent and heavier storms because of climate change have increased pressure on the system, bringing the frequency of discharges to an unacceptable level.

There are around 15,000 storm overflows in England. In 2020, with 80% of storm overflows being monitored, there were over 400,000 sewage discharges, totalling over 3 million hours. On average, one storm overflow discharged sewage into our waters 33 times over the course of the year, but there was considerable variation across the country. Around 10% of overflows did not discharge at all, and a further 20% discharged between 1 and 5 times during the year. At the other end of the scale, around 10% of overflows discharged more than 100 times. It is the government's strong view that this is unacceptable and must change, and we are the first government to take action to make this change.

Discharges from storm overflows contain raw sewage which can contain high levels of harmful pathogens, such as viruses and bacteria.

Storm overflows can also lead to ecological harm due to their impact on water chemistry. For example, organic pollution can result in low levels of dissolved oxygen or increasing levels of ammonia which affects biodiversity. The discharges can also contain other pollutants such as microplastics, pharmaceuticals, nutrients, and heavy metals, as well as visible litter that is flushed down toilets. The impact of sewage discharges on ecology varies depending on the pollutants it carries, their concentration, and the nature of the receiving water body. The smaller and more dilute the sewage discharge, and the larger and faster flowing the receiving river, the lower the ecological impact.

## Regulating storm overflows

The Environment Agency is responsible for regulating water resources and quality, as well as waste from water companies. Within England, the Environment Agency is responsible for regulating all discharges from storm overflows. This is done by issuing [permits](#) for individual storm overflows that outline when they can be used, as well as how they should be monitored and maintained. The Environment Agency has a range of enforcement duties which can apply when permits are breached. There are a range of civil sanctions that they can use such as fixed monetary penalties or compliance notices. The Environment Agency can also prosecute a water company if it believes it has committed a crime against the legislation that it enforces. In deciding how to make enforcement decisions, the Environment Agency considers all the facts and circumstances, testing the evidence against the interests of the public. The Environment Agency acts proportionally when they apply the law and will take account of, and balance, impacts on the environment, people, and business.

Ofwat is the independent economic regulator of the water companies. Ofwat holds water companies to account for the delivery of affordable, secure and resilient water services. Ofwat has a range of enforcement powers that it can use to ensure storm overflow discharges comply with the law. These include enforcement orders to ensure water companies take all appropriate steps to ensure compliance. Ofwat can also impose financial penalties on water companies to a maximum of 10% of their turnover (in a relevant year) if they are in breach of their statutory duties or licence conditions. All financial penalties are borne by shareholders rather than customers.

## Tackling storm overflow discharges

Between 2020 to 2025, water companies are investing £7.1 billion to protect and improve the environment. Of this, £3.1 billion is being invested specifically in storm overflow improvements. This includes £1.9 billion investment on the Thames Tideway Tunnel super sewer, with the rest used to undertake over 800 investigations and over 800 improvement schemes to storm overflows.

The investigations are mainly associated with high spilling overflows. All the investigations will complete this year to inform water company planning for the next price review period. The improvement schemes will come online from 2023 through to 2025 - of these

improvements, 40 are targeted at high spilling overflows, with the remainder focussed on ecological improvements for the Water Environment Regulations 2017, flow treatment improvements at Sewage Treatment Works and bathing waters. The location of these programmes is shown in a map at **Annex 1**.

Currently 80% of storm overflows have Event Duration Monitors which record the frequency and duration of discharges. All storm overflows will be monitored by the end of 2023, requiring water companies to report the frequency and duration of spills to the Environment Agency each year.

The government recognises there needs to be a significant step change on action to protect public health and the environment from storm overflow discharges. In February 2022, for the first time the government set a clear expectation in the [government's strategic priorities for Ofwat](#) that Ofwat should prioritise action by water companies to protect the environment.

The Storm Overflows Taskforce was formed by government in August 2020 (see part 1). A call to action from the Storm Overflows Taskforce has already led to £144 million of new, additional investment on storm overflows within the current 5-year water industry business planning period (2020-2025).

The government has also brought forward a raft of measures in the Environment Act 2021 to tackle discharges from storm overflows:

- a new duty directly on water companies to secure a progressive reduction in the adverse impact of discharges from storm overflows.
- a new duty on government to produce a statutory plan to reduce discharges from storm overflows and their adverse impact, and report to Parliament on progress.
- a requirement for government to produce a report setting out the actions that would be needed to eliminate discharges from storm overflows in England, and the costs and benefits of those actions. Both publications are required by 1 September 2022.
- a new duty directly on water companies and the Environment Agency to publish data on storm overflow operation on an annual basis.
- a new duty directly on water companies to publish near real time information on the operation of storm overflows.
- a new duty directly on water companies to monitor the water quality upstream and downstream of storm overflows and sewage disposal works.
- a new duty directly on water companies to produce comprehensive statutory Drainage and Sewerage Management Plans (also known as Drainage and Wastewater Management Plans) setting out how they will manage and develop their drainage and sewer system over a minimum 25-year planning horizon, including how storm overflows will be addressed through these plans.
- a power of direction for the government to direct water companies in relation to the actions in these Drainage and Sewerage Management Plans.

Water companies will have a key role in reducing discharges from storm overflows, but the government, regulators and the public can also take action to support and accelerate

progress towards eliminating harm from storm overflows. Actions for all parties are set out in this Consultation Document.

## Part 1: Developing the Storm Overflow Discharge Reduction Plan

Tackling storm overflows in England is a government priority. It is an issue which has received significant public attention and the government is firmly committed to a step change on action to protect public health and the environment from storm overflow discharges. We intend to produce a Storm Overflow Discharge Reduction Plan by September 2022, as required by the Environment Act 2021, to outline our vision. This consultation seeks views on the core elements of this Plan in advance of its publication.

Recognising the scale of the challenge on storm overflows, the government established the [Storm Overflows Taskforce](#) in August 2020 to develop practical proposals to significantly reduce the frequency and impact of sewage discharges from storm overflows. Its primary objective is to recommend actions to achieve the long-term aim of eliminating harm from storm overflows in England.

The Taskforce also considered how changes to our laws could help water companies achieve reductions in sewage discharges and provide greater transparency to enable regulators and the public to better hold water companies to account. The Taskforce is currently considering the technical implementation of new water quality monitoring duties brought forward under the Environment Act 2021.

The Storm Overflows Taskforce also commissioned an [independent evidence project](#) on the costs and benefits of a range of options to reduce or eliminate discharges. Complete separation of sewage and rainwater systems would remove the need for storm overflows. This evidence project estimates that the complete elimination of all storm overflows at coastal and inland waters by completely separating the sewer network would cost between £350 billion and £600 billion. It would also cause significant disruption. For example, most of the combined system runs under our towns and cities and would have to be dug up. Reducing discharges to zero in an average year at all inland waters using other options, such as building storage tanks to capture excess water during heavy rainfall, would cost between £160bn and £240bn. Further analysis was therefore commissioned to evaluate the cost of eliminating all ecological harm from overflow discharges whilst also limiting the number of times they operate in response to rainfall.

[View the results of these analyses.](#)

The cost of each of these options would have an impact on consumer water bills and so the policy targets proposed in this consultation document seek to balance ambition against costs to consumers. However, where it is locally practicable and cost effective to do so, the water industry should consider a range of solutions up to and including elimination of storm overflows to achieve the targets laid out in this consultation. The need for action on

storm overflows is clear. It presents a unique opportunity to drive nature-based solutions, innovation, and holistic approaches in the water sector. In developing the proposals in this consultation, we have considered our ambition for storm overflows alongside our ambitions to improve overall water quality, to meet net zero goals, to improve amenity value and to minimise impacts to consumer water bills.

The work of the Storm Overflows Taskforce has informed the development of this consultation and a full impact assessment of the final Storm Overflow Discharge Reduction Plan will be carried out after considering the responses to this consultation.

## Part 2: Responding to this consultation

A wide range of stakeholders have a role in helping us to develop this plan. This consultation starts on 31 March 2022 and closes on 12 May 2022. This is a 6-week consultation. We strongly encourage responses via an online survey on Citizen Space, an online consultation tool. Consultations receive a high level of interest across many sectors and using the online tool assists our analysis of responses, enabling more efficient and effective consideration of issues.

This consultation is being conducted in line with the Cabinet Office consultation principles. If you have any comments or complaints about the consultation process or are unable to access Citizen Space, please email: [consultation.coordinator@defra.gov.uk](mailto:consultation.coordinator@defra.gov.uk).

### Personal details:

- 1) Are you responding as: [individual/water company/charity/consumer organisation/other]
- 2) Do you know who provides your water and sewerage service? [Yes/No/Not applicable]
- 3) If yes, please select from list [Anglian/Northumbrian/Severn Trent/Southern/South West/Thames/United Utilities/Wessex/Yorkshire]

## Confidentiality and data protection information

A summary of responses to this consultation will be published on the [government website](#), but will not include personal names, addresses or other contact details. An annex to the consultation summary will list all organisations that responded. Defra may also publish some or all of the content of your response to this consultation.

If you choose 'Yes' in response to the below question, you are asked to state clearly what information you would like to be kept as confidential and explain your reasons for confidentiality. Information within responses to this consultation may be subject to release to the public or other parties in accordance with the access to information law. Under this

law, we have an obligation to disclose information in certain circumstances. In view of this, explaining your reasons for requesting confidentiality would help us balance obligations of both disclosure and confidentiality. If we receive a request for the information that you have provided in your consultation response, we will take full account of your reasons for requesting confidentiality but cannot guarantee it can be maintained in all circumstances.

If you choose 'No' in response to the below question, we will be able to release the content of your response to the public, without including your personal name and private contact details.

There may be occasions when Defra will share the information you provide in response to the consultation, including any personal data with external analysts. This is for the purposes of consultation response analysis and provision of a report of the summary of responses only. Please find our latest privacy notice on Citizen Space for further details.

- 4) **Confidentiality question: Would you like your response to be confidential? [Yes/No]**
- 5) **[If yes] Please give your reason.**

## Part 3: Storm overflow reduction targets

### Water company actions

#### Reduction targets

The Environment Act 2021 places a duty on water companies to secure a progressive reduction in the adverse impact of discharges from storm overflows. This is reinforced by the [Strategic Policy Statement for Ofwat](#) which outlines that the government expects water companies to significantly reduce the frequency and volume of sewage discharges from storm overflows.

Storm overflows should operate infrequently, and only in cases of unusually heavy rainfall. The government expects Ofwat to support and challenge water companies to meet this expectation. Ofwat is legally required to act in accordance with the Strategic Policy Statement.

The government is clear that water companies must have the long-term aim of complete elimination of all harm from sewage discharges as a result of storm overflows.

Water companies should ensure that untreated sewage discharges from all their storm overflows are significantly reducing over each 5-year price review period. They should consider not only how often but also how much storm overflows are discharging. Averages

over 5 years will allow us to account for annual changes in rainfall, but water companies must plan to compensate for increasing external pressures, such as urban growth and climate change.

In achieving our long-term target of complete elimination of harm from storm overflows, the government intends to set the following specific and time-bound targets for water companies:

### **1. Protecting the environment:**

**Headline target: Water companies shall only be permitted to discharge from a storm overflow where they can demonstrate that there is no local adverse ecological impact. This must be achieved for all storm overflow sites by 2050.**

#### **Sub-targets:**

- The headline target must be achieved for most (75%+) storm overflows discharging in or close to high priority sites by 2035.
- It must be achieved for all (100%) overflows discharging in or close to high priority sites by 2045.
- Water companies must plan to achieve this target for all remaining storm overflow sites by 2050.

High priority sites include Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), eutrophic sensitive areas, chalk streams and waters currently failing our ecological standards due to storm overflows.

No local adverse ecological impact means achieving the Urban Pollution Management Fundamental Intermittent standards for Ammonia and Dissolved Oxygen directly downstream of the discharge point.<sup>1</sup>

This headline target will mean that no water body in England will fail to achieve good ecological status due to storm overflow discharges. It also goes further to ensure there is no local impact, rather than just considering the impact at the water body sampling point which can be far away from the storm overflow. This target will protect biodiversity at both a local and national scale. It will result in the complete elimination of ecological harm from storm overflows.

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<sup>1</sup> Review of urban pollution management standards against WFD Requirements, Environment Agency. ([publishing.service.gov.uk](https://publishing.service.gov.uk))

## **2. Protecting public health in designated bathing waters:**

In addition to protecting the environment, water companies must significantly reduce or eliminate pathogens harmful to human health being discharged by storm overflows.

**Headline Target: For storm overflows discharging into and near designated bathing waters, water companies must significantly reduce harmful pathogens by either applying disinfection, such as with ultraviolet radiation, or reduce the frequency of discharges to meet Environment Agency spill standards by 2035.**

For coastal waters, the Environment Agency spill standard is 3 discharges per season for 'good' and 2 for 'excellent' bathing waters. The Environment Agency will publish the new standards for rivers later this year and we expect that the spill standard will be less than 2 per bathing season. Currently, this standard is only applied to those storm overflows close enough to affect a single monitoring point for each bathing water.

This new target on water companies will require all storm overflows near to existing, or any newly designated, bathing area, to comply with this rigorous standard. This will lead to major improvements to an estimated 660 storm overflows discharging to waters used for recreation and leisure. This is expected to reduce discharges from these overflows close to designated bathing waters by over 70% during the bathing season, although we expect significant reductions to occur outside of the bathing season as well. More detail on how this figure was calculated can be found in **Annex 2**.

## **3. Ensuring storm overflows operate only in unusually heavy rainfall events**

**Headline Target: Storm overflows must not discharge above an average of 10 rainfall events per year by 2050.**

### **Sub-target:**

Water companies must also ensure all storm overflows, regardless of where they discharge to, have screening controls to limit discharge of persistent inorganic material (as well as faecal and organic solids), and they must be well maintained. This means the screen must be designed and maintained so that it always effectively achieves the solid separation and flow rates that it was designed for. This target must also be met by 2050.

Storm overflows were originally designed and intended to operate in unusually heavy rainfall events. However, it is clear that storm overflows are currently being used significantly beyond this original purpose. This target ensures that storm overflows would only be used rarely, in the case of unusually heavy rainfall, if at all.

These targets are key in protecting public health and wellbeing in areas which are not designated bathing waters. A maximum of 12 hours rainfall will be classed as 1 rainfall event. Longer rainfall events will count as multiple events. This target applies to all storm overflows discharging to *any* inland waters as well as those discharging near to any designated bathing waters.

## Delivery timelines

The pacing of these targets has been set based on the modelled costs for achievement and are in line with the water industry's five-year funding cycles. The costs are based on an independent analysis carried out at national scale using modelled water company data. However, the government expects costs to reduce through innovation, better asset management and maintenance, and identifying more effective local solutions. We will monitor the delivery programme, and the government will not hesitate to set faster delivery timelines for targets if delivery costs reduce.

The government is clear that water companies must aim in the long-term to completely eliminate all harm from storm overflows. These targets, overall, are expected to lead to an 80% reduction in the overall number of annual discharges from storm overflows by 2050, which is an anticipated overall reduction of over 300,000 storm overflow discharges. More detail on how this figure was calculated can be found in **Annex 2**.

The table below provides an indication of the trajectory of improvements and the spill reductions that should be achieved by the targets. Greater detail will be available following the submission of final water company business plans in 2024.

Year	2030	2035	2040	2045	2050
<b>% of high priority site storm overflows improved</b>	38%	75%	87%	100%	100%
<b>% of <u>total</u> storm overflows improved</b>	14%	28%	52%	76%	100%
<b>Indicative spill reductions<sup>2</sup></b>	44,000	84,000	160,000	240,000	320,000

We expect water companies to tackle the worst polluting and most harmful overflows discharging to high priority sites by 2035.

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<sup>2</sup> assessment based on spills numbers from EDM 2020 data

By 2035, 84,000 storm overflows spills will have been eliminated and this is over a quarter of all the storm overflow reductions that we expect to achieve overall. As these will be targeted at high priority sites, they will bring the most benefit to the environment and the public. These storm overflows are anticipated to be the most challenging and costly to address given the scale of the improvements required. Between 2035 and 2050, water companies should focus on tackling the harm caused by the all the remaining high priority sites and other overflows.

Our new targets will generate the most significant investment and delivery programme ever undertaken by water companies to protect people and the environment and will revolutionise our sewer system.

#### **Questions:**

- 6) Do you agree or disagree with the level of ambition of the ecology target? [strongly agree, agree, neutral, disagree, strongly disagree, don't know/no answer]**
- 7) Do you agree or disagree with the level of ambition of the public health in designated bathing waters target? [strongly agree, agree, neutral, disagree, strongly disagree, don't know/no answer]**
- 8) Do you agree or disagree with the level of ambition of the rainfall target? [strongly agree, agree, neutral, disagree, strongly disagree, don't know/no answer]**
- 9) Do you agree that this package of targets as a whole addresses the key issues associated with Storm Overflows? [strongly agree, agree, neutral, disagree, strongly disagree, don't know/no answer]**
- 10)[if not] Can you explain why you do not agree?**

The government has also committed in the Environment Act 2021 to prepare a report outlining the actions that would be needed to completely eliminate storm overflows for those water companies whose areas are wholly or mainly in England, and the costs and benefits of those actions. The government will publish this report alongside the Storm Overflow Discharge Reduction Plan in September 2022. The targets proposed for the water industry will be reviewed against the report findings, as well as the real-world costs derived from the proposed investment programme as it progresses. The government will use this information to accelerate the improvement programme, if appropriate.

## **Achieving the targets**

In achieving the targets, water companies will need to look for the best solutions at a local level. We expect water companies to achieve these targets through, but not limited to, the following specific requirements:

- 1. Regulatory Compliance.** As a baseline, water companies must comply with all their existing regulatory obligations and duties, including environmental permits which are issued by the Environment Agency. Water companies have a duty to maintain and upgrade their wastewater systems to ensure they continue to meet their statutory service obligations and keep pace with all the pressures that add surface water to the combined sewer network. Water companies must also ensure all their wastewater and drainage assets are working as intended, and not limiting capacity of their sewage system. This includes (but is not limited to) proactive management and adequate maintenance of assets, with timely replacements, upgrades, or repairs of assets as appropriate.
- 2. Mapping of sewer networks.** Water companies must have maps of their sewer networks upstream of overflows and broadly know which properties with separate rainwater pipes are connected to their combined sewer network (as part of their Drainage and Wastewater Management Plan objectives). This will enable water companies to act when separation is the best solution to achieve sustainable reductions in sewage discharges. Water companies must prioritise removing existing surface water connections from the combined sewer network over building additional storage, wherever this achieves the best outcome for people and the environment.
- 3. Reducing surface water connections.** Water companies must achieve year on year reductions in the amount of surface water that is connected to their combined sewer network. Water companies must remove rainwater from the combined sewer system. This should include limiting any new connections of surface water to the combined sewer network, and any new connections should be offset by disconnecting a greater volume of surface water elsewhere within the network.
- 4. A natural capital approach.** Traditional solutions to reduce discharges, such as increasing storage capacity, are carbon intensive. We expect water companies to prioritise a natural capital approach, considering carbon reduction and biodiversity net gain, as well as catchment-level and nature-based solutions in their planning. The costs and benefits of such interventions must be included in decision-making. Solutions should be effective over the long-term and consider future pressures.
- 5. Treating discharges.** In some cases, it may be a better solution to treat discharges rather than to reduce their frequency. In this case, water companies may consider treatment of sewage discharges as an alternative solution to achieve the outcome of eliminating public harm rather than reducing their frequency. For example, this may be the case for highly diluted overflow discharges caused by groundwater infiltrating pipes, which are difficult to repair.
- 6. Long term collaborative planning.** Water companies must clearly set out how they will meet their storm overflow targets in their Drainage and Wastewater Management Plans. These plans will allow water companies to deliver the storm overflow targets in an integrated way. Through the Environment Act 2021 these plans will become statutory. Water companies must clearly set out how they will meet their storm overflow targets in these plans. Projects brought forward as a result of these plans will be reviewed by the Environment Agency as part of the business planning process to ensure they deliver against our targets on storm overflows.

7. **Evidence-based decision making and maximising co-benefits.** In developing the best solutions, water companies should base their decisions on robust evidence and explore ways in which they can maximise wider benefits where solutions can address multiple issues. For example, where a particular approach could deliver wider environmental or societal value as well as storm overflow performance.
8. **Innovation.** Water companies should proactively investigate novel solutions to reducing harm from storm overflows. Developing long term solutions to water quality and storm overflow issues will require further innovation, particularly in the space of nature-based solutions. Ofwat's innovation fund is an opportunity for water companies to develop, test and apply new ideas.

## Holding water companies to account

### Better information

Water companies have been discharging sewage from storm overflows without sufficient transparency. In some cases, water companies were not even aware when sewage discharges were taking place, or how long they were discharging for. This will change to ensure regulators and the public can hold water companies to account.

By the end of 2023, all storm overflows will have an Event Duration Monitor, providing a complete picture of when, and for how long, each storm overflow operates. The Environment Act 2021 introduced a requirement on water companies to publish this information yearly, with the Environment Agency publishing an annual summary report for all the water companies in England.

The Environment Act also introduced a requirement that water companies make overflow discharge information available to the public in near real time (within an hour of operation). This will allow regulators and the public to see if any overflow is operating when it should not, for example during dry weather.

The Environment Act introduced a further duty, for water companies to monitor the water quality impact of their assets that discharge sewage, including storm overflows. This will provide continuous data and will significantly increase our understanding of the water quality of our rivers. This will give us valuable evidence on the impact of sewage discharges in the local environment and allow us to measure progress by water companies against the targets detailed in this consultation and other objectives.

### Enforcement

The Environment Agency aims to direct their regulatory efforts towards those activities that cause the greatest risk of serious environmental damage; where the risks are least well controlled; where a breach undermines a regulatory framework; and where they suspect deliberate or organised crime. The additional information on storm overflow discharges that will be made available by the new monitoring and reporting duties outlined will be

game changing in improving the ability of the Environment Agency to enforce storm overflow discharge offences and permit breaches.

Like the Environment Agency, Ofwat takes a stepped approach where it has concerns that a company is contravening its obligations. The new monitoring and reporting framework will significantly improve Ofwat's ability to decide when to take enforcement action as it will be clear to all when storm overflow discharges exceed the legal limits.

## Government actions

### Streamlining the planning processes

The government will support Ofwat and the Environment Agency in ensuring companies can make faster progress towards eliminating harm from storm overflows.

Progress on storm overflows has historically been too slow for a variety of reasons. The government, EA and Ofwat want to see faster action on storm overflows. This will include water companies moving from investigating an overflow to improving it at a faster pace without waiting for the next 5-yearly water company planning cycle.

### Rainwater management

Better rainwater management is key to achieving a reduction in sewage discharges from storm overflows, reducing flood risk and improving water scarcity to ensure a healthy environment. Buildings and hard surfaces concentrate rainwater which then runs off into our sewage systems rather than being naturally absorbed into the ground and rivers. Rainwater should be managed following these two principles:

- Rainwater should be treated as a resource to be valued for the benefit of people and the environment, not mixed with sewage or other contaminants.
- Rainwater should be discharged back to the environment as close as possible to where it lands or channelled to a close watercourse without first mixing it with sewage.

Water companies should prevent additional rainwater from entering the combined sewer network and remove existing rainwater connections as set out under 'Achieving the Targets.' The government is willing to support industry in achieving their targets by considering how legislation may be improved to enable water companies to better tackle excess rainwater in our sewage systems.

The Storm Overflow Taskforce has reviewed legislation on rainwater drainage and has several recommendations as set out below. The government will assess the feasibility, effectiveness, and sustainability of these recommendations, as well as views from this consultation, to inform the final Storm Overflows Reduction Plan.

1. **Reviewing the case for implementation of Schedule 3 to the Flood and Water Management Act 2010.** The government is currently reviewing the implementation of Schedule 3 and will report back later this year. If implemented this schedule introduces:
  - a. standards for new sustainable drainage systems (SuDS);
  - b. an ‘approving body’; and
  - c. removes the automatic right to connect to the public sewer system.

SuDS use features such as ponds and grass, as well as tanks and pipes, to reduce the amount of water being added to the sewer network, reducing the risk of surface water flooding, improving water quality and benefiting biodiversity.

2. **Giving water companies the right to repair defective drains on private property.** The total length of privately owned drains is greater than that owned by water companies. Many of these private drains are old or poorly maintained and as a result groundwater seeps into the system, increasing the volume in the combined sewer network and thus increasing the risk of storm overflow discharges. Water companies would need new powers to repair defective pipes on private properties.
3. **Giving water companies the right to alter drainage systems on private property to reduce impermeable areas connected to the combined sewer network.** There are local soakaway solutions, such as rain gardens or water butts, that can be used to reduce rainwater entering the sewage system from individual properties or groups of properties, for example from roofs and patios. Currently, water companies have limited powers to carry out drainage separation work on private property.
4. **Giving water companies the right to discharge rainwater to water courses.** Water companies need to discharge new and existing single rainwater drainage systems to the nearest water course. Currently they have no rights to do this, and so riparian owners can either prevent or demand extremely high fees for discharges. This makes separation of rainwater from combined sewage systems a costly or impossible option.
5. **Assessing the role of highway drainage as a rainwater drainage system.** Planning Practice Guidance sets out a hierarchy of drainage options to discharge surface runoff, with discharge of surface water to highway drainage preferable to discharge to combined sewers. In practice however, highway authorities often refuse to allow connection to their systems and there is no legal obligation for them to do so. This forces developers to connect to the combined sewer.

## Reducing flooding risk

The government is committed to flood resilience, and we restated our plans for tackling surface water in the July 2021 surface water management [update](#).

This update includes progress to date in delivering the [Surface Water Management Action Plan](#), and its response to the [independent review](#) into surface water and drainage responsibilities. The David Jenkins’ review of surface water responsibilities noted the

benefit of managing rainwater, for example via sustainable drainage systems, so it does not enter the sewer network. The review outlined recommendations on how this could be achieved which the government has accepted.

The government fully supports the use of blue green infrastructure, such as sustainable drainage systems and grey water recycling to manage surface water, across existing and new communities. We have placed a greater emphasis on this in our 25 Year Environment Plan, Strategic Policy Statement to Ofwat and updated planning policy.

## **Further protection for our bathing waters**

Our bathing water regulations have led to significant improvements in bathing water quality, with 99% of bathing waters in England meeting at least the minimum standard, and over 70% meeting the highest possible standard of 'excellent' in 2021. However, we recognise that further improvements to protect bathers and other recreational water users is necessary.

We are increasingly seeing applications from community groups for bathing water status rather than from local authorities, as has been the norm. To make it easier for water community groups to understand the criteria for bathing water status and ensure only necessary information is requested, this year the government will revise its existing guidance on how to make an application for a new bathing water designation.

Bathers are currently informed of the water quality through signs which display the annual classification of a bathing water alongside other information. The Environment Agency also issue daily pollution risk forecasts during the bathing season at over 170 of bathing waters. We will consider what further steps we can also take in the future to improve the timeliness and usefulness of information that the public are given about water quality in order to make informed choices before they enter the water. We will make use of learning from existing trials such as using sensor technology to indicate water quality, and other apps and websites which give more timely information.

## **Protection for our shellfish waters**

Special consideration is also given to areas of shellfish production to support shellfish life and growth, and to contribute to the high quality of shellfish products suitable for human consumption. There are over 90 shellfish water protected areas in England where water quality is monitored for harmful bacteria and action taken to endeavour to observe the strict standard for bacteria in the water.

In addition to the actions described above to tackle storm overflow discharges, the government is prioritising action in waters where we can achieve compliance with the microbial standard by 2030 and there is significant economic production of shellfish. All shellfish waters will be protected from deterioration. This will drive additional improvements for example disinfection of sewage from treatment works and working with the agricultural sector to reduce diffuse pollution.

## Public support

There are actions that we can all take to reduce the amount of rainwater entering our sewers and keep them flowing freely.

For example, construction of hard surfaces like patios in our gardens concentrates rainwater in the sewage system and prevents its natural drainage. Using permeable surfaces and alternatives for drainage such as soakaways and rain gardens reduce the problem. Implementing Schedule 3 of the [Flood and Water Management Act 2010](#), which government is currently reviewing, would introduce standards for and adoption of new drainage systems, and make it compulsory that systems are approved before any construction work commences. However, we encourage property owners to make sustainable changes to their own existing properties as good practice regardless.

Misuse of drains and sewers by disposing of fats, oils, greases, wet wipes and nappies down sinks and toilets can also cause pollution and flooding as they can build up in sewer networks and limit or even block the flow in the pipes. The government is committed to tackling the issues caused by unflushables through facilitating and encouraging behaviour change in how these products are disposed of.

We are currently exploring options to eliminate the use of wet wipes and ensure that where wet wipes are necessary, readily biodegradable options are available, and that consumers dispose of them appropriately rather than down the toilet. In November 2021, the government launched [a call for evidence](#) on commonly littered and problematic plastics. A summary of responses to this call for evidence will be published later in the year.

## Deliverability and costs

The government has committed to taking a long-term approach to investment, recognising that a system that works in the enduring interests of consumers does not simply mean lower prices in the short-term at the expense of future generations. Water industry investment should be made in a way that secures long-term resilience and protects and enhances the environment, whilst delivering value for money for customers, society and the environment over the long-term.

All the actions proposed in this consultation have been designed with consideration to the deliverability by industry, regulators, and other actors.

When water companies invest in new infrastructure, they pass on the costs of this investment to consumers through water bills. The measures we have set out in this consultation would require water companies to make new investments, and this would therefore have an impact on the water bills of households and businesses. We have used industry data to estimate the likely impact of the targets on average water bills in England before inflation.

Based on the modelled costs (**Annex 2**), it is anticipated that annual water bills averaged over the whole period to 2090 would rise by £65 compared to current prices (around £5 per month). There would be no immediate bill impacts. The modelled bill increases would start in 2025, and would initially be lower, slowly rising to an increase of £20 per year (less than £2 per billpayer per month) between 2025 and 2030.

Actual costs may be lower than modelled where companies are able to find lower cost solutions locally. Many factors may influence bill rises and there will be regional differences depending on the scale of work required in each area. Ultimately, it will be for water companies to come forward with investments that deliver against their statutory obligations, and to set their water bills in a way that is fair for their customers. We will work with Ofwat to ensure that the water company business plans deliver the targets to provide best value to consumers and the environment.

The targets outlined in this consultation aim to strike the right balance between the scale and pace of ambition and value for customer money through impacts on customer bills.

#### **Questions:**

**11) Would you be willing to pay more in your monthly water bill in order for water companies to tackle sewage discharges as outlined in this consultation? [Yes/No/Don't know/ N/A]**

## **What happens next**

The consultation will close on 12 May and responses will be collated and analysed. The government will publish a summary of responses on gov.uk within 12 weeks of the consultation closing. Responses will be used to shape the content of the government Storm Overflows Discharge Reduction Plan which will be laid in Parliament on the 1<sup>st</sup> of September 2022.

# Annex 1: Map of storm overflow investigation & improvement schemes 2020-2025



## Annex 2: Methodology for calculating discharge reductions, delivery milestones and costs

Part 3 of this consultation details the expected delivery timeframes and anticipated discharge reductions that the targets will achieve as well as the potential costs and bill impacts. This annex sets out how the expected reductions and costs were calculated. We will also produce a full impact assessment alongside the Storm Overflows Reduction Plan in September which will further outline evidence and delivery considerations.

### **Protecting public health in designated bathing waters:**

Analysis suggests that the public health target will reduce discharges from overflows close to designated bathing waters by approximately 70% during the bathing season.

#### *Methodology:*

Event Duration Monitoring data provided to the Environment Agency by English water companies for the 2021 bathing season was used for this assessment. This is the most recent available data set.

- In 2021 there were 1,019 monitored overflows associated with bathing waters.
- 353 overflows were identified as already having been improved to meet a 3 spills per bathing season spills frequency standard per the Environment Agency Spill Standard for bathing waters to achieve good status at a minimum.
- This leaves 666 overflows (rounded to 660) which would need to be improved under the proposed public health target.
- The average spill frequency for the 1,019 overflows during the 2021 bathing season was 10 spills per bathing season. This value was used as the baseline for the bathing season assessment.
- The target for the improvement of the 660 overflows will be from this 10-spill baseline to no more than 3 spills during a bathing season, resulting in an approximate 70% reduction.

As some overflows will operate fewer than 3 times per bathing season, and as we expect more bathing sites to be designated as we move forward, we would expect the reductions to be greater than 70% over time.

### **Ensuring storm overflows operate only in unusually heavy rainfall events:**

Analysis suggests that limiting discharges to no more than 10 rainfall events as a maximum will lead to an 80% reduction in the use of storm overflows by 2050.

#### *Methodology:*

Event Duration Monitoring data provided to the Environment Agency by English water companies for [2020](#) was used in the assessment. This is the most recent available data set.

- Data from 12,000 overflows were used in the assessment (excluding Welsh Water operations in England) to determine baseline values for total number of discharges. This was determined as 399,753 total discharges.
- Of the 12,000 overflows examined, 5022 already operated 10 or fewer times (42% of the total overflows) leaving 6978 discharging above our proposed target.
- We then assumed that those 6978 overflows all discharged only 10 times, as per the rainfall target and used this assumption to calculate the predicted total discharges. These were added to the total discharges for those already spilling 10 times or less.
- This total was then compared to the 2020 baseline total discharges to calculate the percentage reduction of 79%, which was rounded to 80%.

## Costs and impacts on bills

The government has committed to taking a long-term approach to investment, recognising that a system that works in the enduring interests of consumers does not simply mean lower prices in the short-term at the expense of future generations. Water industry investment should be made in a way that secures long-term resilience and protects and enhances the environment, whilst delivering value for money for customers, society and the environment over the long-term.

Based on the costs modelled in the [Storm Overflow Evidence Project](#), to reduce storm overflow discharges resulting from surface water entering the sewer system, ecology and rainfall limit targets have an average combined capital cost of £51.5bn (range: £40bn to £63bn).

The public health target and the screening requirements have been estimated to add a further capital cost of £2.5bn - this estimation has been based on the costs of previous storm overflow upgrades (ie the [Green Recovery](#) programme for the case of public health, and previous Asset Management Plan investments adjusted for inflation for screens).

The projected total investment of £54bn capital costs (plus a further 1% annual operation cost) carried out as a phased long-term programme would be equivalent to average annual water bills in England of £65 per billpayer over the period 2025-2089. There would be no immediate bill impacts. The modelled bill increases would start in 2025, and would initially be lower, slowly rising to an increase of £20 per year (less than £2 per household per month) between 2025 and 2030.