Department
for Environment
Food & Rural Affairs

Storm Overflows Discharge Reduction Plan Consultation

Date: 12 June 2023

We are the Department for Environment, Food and Rural Affairs. We are 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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Any enquiries regarding this publication should be sent to us at

stormoverflowsconsultationplan1@defra.gov.uk

www.gov.uk/defra

Contents

Responding to the consultation

This consultation will start on 12 June 2023 and will close on 24 July 2023. This is a 6 week consultation.

We encourage responses though Defra's Citizen Space consultation hub, 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. The consultation can be completed online via Citizen Space.

However, responses can be sent by email. We must receive these responses by the closing date. In your response please state: Your name; your email address; your type of organisation and whether you would like your response to be confidential.

Please send responses to the email or postal address below (page 3).

If you have any queries on the consultation or need a hard copy of the document please emailus.

Consultation principles

This consultation is being conducted in line with the Cabinet Office "Consultation Principles".

If you have any complaints about the consultation process, please address them by email to: consultation.coordinator@defra.gov.uk.

Next steps

Following this consultation, we will publish a summary of responses and a government response.

Confidentiality and data protection information

A summary of responses to this consultation will be published on the UK government's website at: www.gov.uk/defra. An annex to the consultation summary will list all organisations that responded but will not include personal names, addresses or other contact details.

Defra may publish the content of your response to this consultation to make it available to the public without your personal name and private contact details (for example, home address, email address).

If you click on 'Yes' in response to the question asking if you would like anything in your response to be kept confidential, you are asked to state clearly what information you would like to be kept as confidential and explain your reasons for confidentiality. The reason for this is that information in responses to this consultation may be subject to release to the public or other parties in accordance with the access to information law (these are primarily the Environmental Information Regulations 2004 (EIRs), the Freedom of Information Act 2000 (FOIA) and the Data Protection Act 2018 (DPA)). We have obligations, mainly under the EIRs, FOIA and DPA, to disclose information to particular recipients or to the public in certain circumstances. In view of this, your explanation of your reasons for requesting confidentiality for all or part of your response would help us balance these obligations for disclosure against any obligation of confidentiality. If we receive a request for the information that you have provided in your response to this consultation, we will take full account of your reasons for requesting confidentiality of your response, but we cannot guarantee that confidentiality can be maintained in all circumstances.

If you click on 'No' in response to the question asking if you would like anything in your response to be kept confidential, we will be able to release the content of your response to the public, but we won't make your personal name and private contact details publicly available.

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.

Question: Would you like your response to be confidential? [Yes/No]

[If yes] Please give your reason.

Consultation

The government has set out its intention to ensure action is taken to address all storm overflows from water companies wholly or mainly in England. This follows an announcement from the Secretary of State on 20 February 2023 requiring individual action plans on all storm overflows, including coastal and estuarine overflows. We are now consulting further on the expansion of the Storm Overflow Discharge Reduction Plan to cover coastal and estuarine waters, which had not been specifically included in the plan as published on 26 August 2022.

The Storm Overflows Discharge Reduction Plan prioritises action to ensure that storm overflows that impact protected habitats or designated bathing waters are addressed first. The plan sets out that if we can go faster, we will (page 7). The plan will be reviewed by 2027 to allow the government to assess national targets to ensure they remain ambitious, affordable and deliverable (page 14). The plan notes this will allow us to establish if companies can go further and faster to achieve the targets in the plan without having a disproportionate impact on consumer bills.

Background

As set out in the Storm Overflow Discharge Reduction Plan (page 12), published on 26 August 2022, storm overflows were originally designed and intended to only operate in unusually heavy rainfall events. However, they are being used significantly beyond their original purpose.

Targets in the Storm Overflows Discharge Reduction Plan

The targets on water and sewerage companies in the Storm Overflows Discharge Reduction Plan (pages 11 to 12) are:

Target 1 - Protecting the environment

Water companies will only be permitted to discharge from a storm overflow where they can demonstrate that there is no local adverse ecological impact.

Sub-targets

- the headline target must be achieved for most (at least 75%) storm overflows discharging in or close to high priority sites (as defined in Annex 1) by 2035
- it must be achieved for all (100%) storm overflows discharging in or close to high priority sites by 2045
- water companies must achieve this target for all remaining storm overflows sites by 2050

The ecology test in the plan applies to overflows discharging to inland waters in England.

Target 2 – Protecting public health in designated bathing waters

Water companies must significantly reduce harmful pathogens from storm overflows discharging into and near designated bathing waters, by either: applying disinfection; or reducing the frequency of discharges to meet Environment Agency spill standards by 2035.

Target 2 applies to all designated bathing waters, whether inland, coastal or estuarine.

Target 3 - Ensuring storm overflows operate only in unusually heavy rainfall events

Storm overflows will not be permitted to discharge above an average of 10 rainfall events per year by 2050.

The target currently applies to all storm overflows discharging to inland waters, and to all designated bathing waters (both inland and coastal).

Rainfall events are defined in the plan (page 32).

Scope of the plan

Storm overflows are being used significantly beyond their original purpose, and the government has been clear that this is unacceptable. It is necessary to prioritise investment and action to improve storm overflows across our sewerage system given the scale of the challenge.

The plan frontloads action in the most urgent areas, ensuring areas including bathing waters and sites prioritised for their ecological significance are addressed first. This prioritisation is set out through the separate targets in the plan, outlined in pages 11-12 and 26.

Our report on the feasibility of eliminating all storm overflow discharges concluded that eliminating all discharges could cost between £120 billion and £600 billion, increasing annual water bills between £271 and £817 per year by 2049. This would require either separating all the combined sewers or building sufficiently large storage so as to reduce discharges to zero on an average year.

Eliminating all discharges would place an unacceptable pressure on bills and would require an infrastructure programme that would not be deliverable. The Storm Overflow Discharge Reduction Plan carefully balances costs with the successful delivery of the required changes.

There are around 15,000 storm overflows in England and the targets within the Storm Overflows Discharge Reduction Plan apply to 91% of these. The remaining 9% are coastal and estuarine storm overflows which do not impact bathing waters. These are not currently covered by the targets in the plan. Increasing the scope of the plan will have costs for water companies, a proportion of which would be likely to be paid by water bill payers.

This is because large scale projects undertaken by water and sewerage companies are funded by investment from shareholders, borrowing and through customer bills.

The costs of extending the targets are set out in Annex 1.

Target 1 ('protecting the environment') in the Storm Overflows Discharge Reduction Plan (page 11) states that "Water companies will only be permitted to discharge from a storm overflow where they can demonstrate that there is no local adverse ecological impact".

The plan states (page 31) that for the purposes of the plan 'no local adverse ecological impact' means achieving the Urban Pollution Management 'Fundamental Intermittent Standards' (FIS) or 99 percentile standards for Ammonia and Dissolved Oxygen downstream of the storm overflow discharge point.

This ecology test only applies to overflows in inland waters. There is no standard ecology test for storm overflow discharges into coastal and/or estuarine waters in the UK nor, as far as we are aware, anywhere in the European Union.

This is because although the method used to test ecology in coastal and estuarine waters would be similar to the one used for rivers, the current standards for ammonia and dissolved oxygen only apply to rivers. To be able to determine whether or not storm overflows are causing adverse ecological impact in coastal and estuarine waters, a common test would need to be set, and this would be expected to result in site-specific standards.

We are not aware of a common standard and test currently being used internationally, so this would be a novel approach to assessing the ecological impact of storm overflows in coastal and estuarine waters.

For target 1 ('protecting the environment'), the plan (page 31) also defines high priority sites to include;

- Sites of Special Scientific Interest (SSSIs)
- Special Areas of Conservation (SAC)
- Urban Wastewater Treatment Regulations sensitive areas
- chalk streams
- waters currently failing our ecological standards due to storm overflows

While not explicitly excluded, Marine Protected Areas were not listed specifically as high priority sites. This is due primarily to there not being an ecology standard for coastal and estuarine waters. Marine Protected Areas is an umbrella term which covers the marine parts of the following sites:

- Special Areas of Conservation (SACs)
- Special Protection Areas (SPAs)
- Marine Conservation Zones (MCZs) and Nature Conservation Marine Protected Areas
- Sites of Special Scientific Interest (SSSIs)

- Areas of Special Scientific Interest (ASSIs)
- Ramsar sites

Therefore, we are consulting on including the 9% of coastal and estuarine overflows which are not already covered in target 3. We are also considering whether to develop an ecological standard for monitoring storm overflows' impact on coastal and estuarine waters.

Respondent Information Questions

Question: Are you responding:

- **As an individual**
- **On behalf of a business (if yes, which one)**
- **On behalf of an organisation (if yes, which one)**

Question: Do you know who provides your water and sewerage service?

- **Yes**
- **No**
- **Not applicable**

If you answered yes, please select the company that provides your water and sewerage service:

- **Anglian Water**
- **Northumbrian Water**
- **Severn Trent Water**
- **Southern Water**
- **South West Water**
- **Thames Water**
- **United Utilities**
- **Wessex Water**
- **Yorkshire Water**

Questions on the scope of the plan

1. **Should the government explore developing an ecological standard for coastal and estuarine waters? Yes / No**

2. **What considerations do you think may be relevant to developing an ecology standard for a) coastal overflows and b) estuarine overflows? Please make reference to any specific types of harm that you believe should be taken into account.**

3. **Should any other areas be added to the current list of high priority sites in the Plan?**

4. **Should all overflows, including those discharging into coastal and estuarine waters, be included in the scope of the Storm Overflows Discharge Reduction Plan?**

Annex 1 – Evidence

This provides details of the evidence used for the cost estimates in this consultation on the Storm Overflows Discharge Reduction Plan.

What are the cost estimates for expanding the plan?

The costs of extending the ecology target have a high degree of uncertainty at present. We are undertaking further work to get a clearer picture, which we will detail in the government response to this consultation.

Adding coastal and estuarine waters to the rainfall target (target 3)

It is estimated that improving the 1,300 estuarine and coastal overflows not currently covered by the plan to ensure they meet target 3 (‘ensuring storm overflows operate only in unusually heavy rainfall events’) would require capital investment of around £4 billion. This figure was calculated by extending analysis conducted by the external consultants Stantec which determined the £56 billion capital costs of the Plan and was published as the Storm Overflows Evidence Project.

Using analysis by Stantec, an estimate of the storage required to limit discharges from all estuarine and coastal overflows to an average of 10 rainfall events per year or fewer (the target 3 standard) was calculated. An estimate of the storage required to limit spills from the subset of these which are bathing waters to an average of 10 per year or fewer was also calculated. Storage data was not forthcoming from all companies, so some assumptions had to be made in these calculations.

Capital costs were estimated based on these storage requirements. To determine capital costs to ensure overflows not currently covered by the plan meet the target 3 standard (‘ensuring storm overflows operate only in unusually heavy rainfall events’), bathing water capital costs were subtracted from total estuarine and coastal capital costs. The subset for estuarine and coastal waters, not bathing waters, provides the assessment of costs beyond those included in the Impact Assessment for the Storm Overflows Discharge Reduction Plan.

Table 1.1: Storage and capital cost estimates for estuarine and coastal overflows to meet the rainfall target

Water body impacted	Storage (m^3) to limit annual average spill frequency to 10	Total storage (m^3) (with unmodelled overflows uplift)	Total storage cost
All estuarine and coastal	2,800,000	3,800,000	£7 billion
Subset – estuarine and coastal bathing waters	1,300,000	1,600,000	£3 billion
Subset - estuarine and coastal, not bathing waters	1,500,000	2,200,000	£4 billion

Operating costs are estimated to be 0.1% of cumulative capital investment (this estimate was also used in the Plan Impact Assessment).

Extending target 3 ('ensuring storm overflows operate only in unusually heavy rainfall events') to all overflows would bring total capital investment for the updated plan from around £56 billion to around £60 billion.

	Capital cost of expanding the rainfall target	Total capital cost of plan with expanded rainfall target
Capital investment	**~£4 billion**	**~£60 billion**

There is no common standard for ecology for coastal and estuarine waters. Therefore, the cost of expanding target 1 ('protecting the environment') for coastal and estuarine waters is not assessed in this document. Any estimates would have a high degree of uncertainty as it is not established what standard would be required for each site.

Regarding target 1, if target 3 ('ensuring storm overflows operate only in unusually heavy rainfall events') is expanded to apply to all coastal and estuarine overflows, expanding the number of high priority sites would not bring additional overflows under the Plan's scope but would increase the number of overflows improved early as part of the prioritisation set out in the Plan.

To calculate indicative impacts on bills, costs have been modelled to take place between 2030 and 2050. We estimate the £4bn capital investment to extend the rainfall target to all overflows may add approximately £1 per year on average to bills in the period between 2030 and 2034, rising to approximately £7 per year between 2045 and 2049.

These are designed to show the order of magnitude of likely bill impacts and are inherently uncertain as they depend on a range of factors. It should also be noted that there is expected to be significant regional variation.