

## Government's Storm Overflows Discharge Reduction Plan 31 March 2022

### Marine Conservation Society Response

**Data amendment, 22nd November 2022:** This consultation response was submitted stating that, "We have calculated (using Event Duration Monitoring, Storm Overflows, Annual Returns<sup>3</sup>) that in total there are at least 2540 storm overflows within 1km of an MPA in England, which spilt untreated sewage 66,286 times, for a total of 440,508 hours in 2021. 1301 overflows spilt more than 10 times in 2021, with an average of 49 spills for each of those overflows." However, we have subsequently noted that some CSOs spill into more than one type of MPA resulting in a double accounting of overflows spilling into overlapping sites. The new data is, "We have calculated (using Event Duration Monitoring, Storm Overflows, Annual Returns<sup>3</sup>) that in total there are at least 1651 storm overflows within 1km of an MPA in England, which spilt untreated sewage 41,068 times, for a total of 263,654 hours in 2021. 819 overflows spilt more than 10 times in 2021, with an average of 48 spills for each of those overflows."

In addition, we mistakenly included all MCZs in Secretary of State waters which included 2 sites in Northern Irish offshore waters. Originally, we stated, "We have calculated (using Event Duration Monitoring, Storm Overflows, Annual Returns<sup>3</sup>) that out of 180 MPAs in England, over half (110 MPAs) had at least 1 CSO (within 1km) which split more than 10 times in 2021. This includes 42 (46%) MCZs and 39 (80%) SPAs." The new data is "We have calculated (using Event Duration Monitoring, Storm Overflows, Annual Returns<sup>3</sup>) that out of 178 MPAs in England, over half (110 MPAs) had at least 1 CSO (within 1km) which split more than 10 times in 2021. This includes 42 (47%) MCZs and 39 (80%) SPAs."

<sup>3</sup>reference unchanged

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#### Questions:

**1) Are you responding as: [individual/water company/charity/consumer organisation/other]**

Charity

**2) Do you know who provides your water and sewerage service? [Yes/No/Not applicable]**

Not applicable

**3) If yes, please select from list [Anglian/Northumbrian/Severn Trent/Southern/South West/Thames/United Utilities/Wessex/Yorkshire]**

Not applicable

**4) Confidentiality question: Would you like your response to be confidential? [Yes/No]**

No

**5) [If yes] Please give your reason**

Not applicable

**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]**

Strongly disagree

**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]**

Strongly disagree

**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]**

Strongly disagree

**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]**

Strongly disagree

**10)[if not] Can you explain why you do not agree?**

We welcome the governments' ambition to reduce the harm from storm overflows (overflows) as a priority and agree that water companies' reliance on overflows is unacceptable, however, overall the plan lacks the ambition needed to protect transitional and coastal (TraC) waters from the impacts of overflows and the pace of delivery for all targets is far too slow. Healthy clean coasts are vital for us to enjoy and the coastal habitats provide a vital role in our fight against the climate emergency. While the proposed improvements to overflows upstream will have benefits for TraC waters, the proposed targets only include some of the overflows discharging into TraC waters. Therefore, only limited areas will have protection meaning that a cocktail of contaminants, including nutrients, harmful chemicals and microplastics will continue to be dumped at sea. With only 16% of water bodies (29% of TraC waters) meeting Good Ecological Status and 100% of all water bodies failing to meet Good Chemical Status (according to the latest assessments using data from 2016 – 2019<sup>1</sup>), the current proposals are woefully insufficient to achieve the current requirement for either Good Ecological Status or Good Environmental Status (under UK Marine Strategy) and deliver on government's environmental commitments.

**Our key asks and concerns:**

- **All overflows must be included in Target 3** – We estimate that around 600 overflows in transitional and coastal (TraC) waters would not be included in Target 3 as currently written. Therefore, overflows could continue to discharge untreated sewage on a regular and uncontrolled basis, leaving some areas of the coast unprotected from high spilling overflows. This could mean that some Marine Protected Areas (MPAs), designated to protect sensitive habitats and species, could be subjected to high numbers of overflows.

- **Target 1 must include all marine protected areas (MPAs) as ‘high priority sites’ and the definition of ‘adverse ecological harm’ must be expanded** – The definition of ‘high priority sites’ is too narrow and should be extended to include all MPAs. Currently SPAs and MCZs are not included and therefore overflows causing adverse ecological harm in these areas would not need to be improved until 2050. The definition of ‘adverse ecological harm’ only includes indicators for ammonia and dissolved oxygen which were designed for protection of freshwater life. Utilising this very narrow definition of harm, means the impact of harmful chemicals and microplastics are not considered and thereby fails to take account of the latest scientific research. Furthermore, the standards were not designed for use in transition and coastal areas and therefore are an inadequate assessment of the health of the environment.
- **Target 2 should be expanded to include all shellfish waters** – 75% of shellfish waters fail water quality standards<sup>1</sup> and while they are mentioned in the consultation, they are not currently included in any of the targets.
- **Targets should be set for government to implement upstream solutions and to stop harmful chemicals and microplastics at source** – According to the plan, even if all of the proposed targets are met in 2050 approximately 20% of discharges (or 80,000 annually) will continue to discharge untreated sewage. Discharges from overflows contain harmful chemicals and microplastics and therefore it is vital that the plan includes targets to stop pollutants from entering the wastewater system in the first place.
- **More immediate action must be taken to reduce harm by 2030** – The proposed timeframes for delivery are far too slow. Currently the plan will see only 14% of overflows improved by 2030 and screening to prevent plastic pollution will not be required for all overflows for another 28 years. Timeframes should be brought forward to support delivery of other targets and government commitments for water quality and nature recovery. By 2030, 100% of overflows should not cause ecological harm in high priority areas (including all MPAs), not impact bathing or shellfish waters and have screening controls to limit discharge of persistent inorganic material.

### All overflows must be included in Target 3

Target 3 states that ‘Storm overflows must not discharge above an average of 10 rainfall events per year by 2050’ and it applies to ‘storm overflows discharging to any inland waters as well as those discharging near to any designated bathing waters.’ According to the ‘Storm Overflows Evidence Project’, 13,350 of 15,000 storm overflows in England discharge into inland rivers<sup>2</sup>, therefore we presume that the remaining 1650 overflows discharge into estuaries and coastal waters. Annex 2 of the consultation states that 1,019 monitored overflows are associated with bathing waters. Therefore, we estimate that the other 631 overflows discharging into estuaries and coastal waters will be excluded from this target and would have no limits on the number of times they could be spilling untreated sewage into these waters (the actual number may be higher as some overflows associated with bathing waters may be inland). Some of these overflows could be discharging into, or near to, MPAs, which are designated to protect sensitive habitats and species. This situation is exacerbated by the failure to include all MPAs as ‘high priority sites’ in Target 1.

We have calculated (using Event Duration Monitoring, Storm Overflows, Annual Returns<sup>3</sup>) that in total there are at least 2540 storm overflows within 1km of an MPA in England, which spilt untreated sewage 66,286 times, for a total of 440,508 hours in 2021. 1301 overflows spilt more than 10 times in 2021, with an average of 49 spills for each of those overflows.

MCS contacted Defra and Environment Agency on 4th April after the consultation was launched. However, Defra and the Environment Agency were unable to tell us the number of overflows which would not be included in Target 3. We have not seen any supporting evidence on why these have been excluded from the Targets and therefore we are concerned that this decision was not based on any evidence that this would not cause harm. In addition, we have concerns that this provides a legal loophole which water companies could utilise to discharge untreated sewage without targets, and thereby severely diminishing the impact of such legislation. Furthermore, in the 'methodology for calculating discharge reductions' in Annex 2 calculations of spill reductions have included all overflows despite the fact that the Targets have failed to include all overflows. This information in Annex 2 is therefore misleading unless Target 3 is amended.

Current environmental monitoring of TraC waters does not include microplastics and only limited harmful chemicals with overflows are not monitored for any of these contaminants. In addition, coverage of ecological monitoring is very low. Monitoring is therefore insufficient to determine that overflows are not causing harm in TraC waters. For example, in the government's own assessment produced by Cefas the 'Condition of intertidal seagrass communities in coastal waters determined using Water Framework Directive method' (which forms part of the Marine Strategy sediment habitats targets), it says '...there is low confidence in the assessment results' and this is '...primarily due to low spatial coverage ..., and low coverage of water bodies categorised as being 'At Risk' or 'Probably at Risk' from diffuse source pollution...'<sup>4</sup>. It continues to say that 'Assessments represent a small proportion of the overall UK coastline with Water Framework Directive classifications provided for 8 out of 475 coastal water bodies'<sup>4</sup>. That means less than 2% of coastal water bodies are assessed.

According to the latest assessments (using data from 2016 – 2019), only 29% of TraC waters are at Good Ecological Status, with 0% at good chemical status<sup>1</sup>. Less than half of estuaries are assessed as having no problem with eutrophication (15% were assessed as quite or very certain to have a problem and a further 40% are unsure if there is a problem) and 75% of shellfish waters fail water quality standards<sup>1</sup>.

Due to the above reasons, it is vital that all overflows discharging in TraC waters are included in Target 3. If they are not included there is a risk that coastal water quality could deteriorate further if flows from overflows which are included in targets upstream are diverted to those in TraC waters which do not have any spill targets.

The Target says that overflows must not operate 'above an average of 10 rainfall events per year by 2050'. However, there is no definition of what is classed as a 'rainfall event'. For example, does this equate to 10 spills/discharges or is it a different metric? How would these rainfall events be monitored and enforced? It would be important that spills which occurred in dry weather are included.

As advances in the monitoring of overflows improve to include spill volume, this target should be reviewed and amended accordingly since 10 large spills annually could have a large impact on the receiving water.

## **Target 1 must include all marine protected areas (MPAs) as ‘high priority sites’ and the definition of ‘adverse ecological harm’ must be expanded**

Currently, SPAs and MCZs are not included in the definition of ‘high priority sites’, despite being designated to protect sensitive habitats and species, and therefore overflows causing adverse ecological harm in these areas would not need to be improved until 2050. We have calculated (using Event Duration Monitoring, Storm Overflows, Annual Returns<sup>3</sup>) that out of 180 MPAs in England, over half (110 MPAs) had at least 1 CSO (within 1km) which split more than 10 times in 2021. This includes 42 (46%) MCZs and 39 (80%) SPAs. Many of the overflows are adjacent to some of our most important estuaries that are hotspots for seagrass (Falmouth, Plymouth and The Solent – see Annex Figures 1-4).

This does not align with the government's current Consultation on Environmental Targets for the Environment Act 2021, in which the proposed MPA target is ‘70% of the designated features in the MPA network to be in favourable condition by 2042, with the remainder in unfavourable but recovering condition, and additional reporting on changes in individual feature condition’<sup>5</sup>. In the consultation it states that ‘These recoverability assessments assume that all damaging activity is prevented by 2024 at the latest ‘and that “MPA network” refers to Marine Conservation Zones (MCZs) designated under the Marine and Coastal Access Act 2009 (MCAA), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated under the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (Figure 1)’<sup>5</sup>. Therefore, to be in alignment with other nature recovery targets the definition of ‘high priority sites’ must be amended to include all MPAs, including MCZs and SPAs.

Even then, the definition of ‘no local adverse ecological impact’ is unlikely to identify all overflows impacting on these sites since it focuses on only two indicators, ammonia and dissolved oxygen, which were designed for the protection of freshwater life<sup>6</sup>. Utilising this very narrow definition of harm, means the impact of harmful chemicals and microplastics are not considered and thereby fails to take account of the latest scientific research. Highly persistent chemicals and microplastics accumulate in the environment over time and therefore will reach a point of harm unless controlled at source. Reducing the amount of microplastics entering the environment is essential to achieving Good Environmental Status in our seas, as defined in the UK Marine Strategy. The standards were not designed for use in transition and coastal areas and therefore are an inadequate assessment of the health of the environment. There should be increased monitoring (better coverage and broader assessments), including ecological monitoring at overflow locations and monitoring for microplastics and harmful chemicals.

## **Target 2 should be expanded to include all shellfish waters**

The headline target for protecting public health is too narrow in focus and should be expanded to include storm overflows near to shellfish waters. 75% of shellfish waters fail water quality standards<sup>1</sup> and while they are mentioned in the consultation they are not currently included in any of the Targets, unless they happen to be near to a bathing water or the limited coastal sites which have been included as ‘high priority areas’.

Target 2 allows for water companies to reduce harmful pathogens by either disinfection or reducing discharges to a maximum of 2 or 3 spills per bathing season. We presume that treatment in this context refers to UV treatment – and while this would reduce harmful pathogens it will not remove

other contaminants such as microplastics or harmful chemicals and therefore treatment should be applied in addition to reducing discharges.

The recommendation to reduce the number of spills to two or three in the bathing season is limited to the bathing season only, yet people use our waters all year round. Therefore the target should be amended to reduce discharges to a maximum of 2 or 3 spills per year.

### **Targets should be set for government to implement upstream solutions and to stop harmful chemicals and microplastics at source**

The Targets are aimed only at water companies, but should include all stakeholders responsible for delivering the changes needed to address the impact of overflows. This should include Targets for the separation of surface water through the implementation of sustainable urban drainage (SUDs) and nature based solutions. In addition, it is vital that there are requirements for the appropriate treatment of surface water before it is discharged back into the environment since urban and highway run-off can contain high levels of harmful chemicals and microplastics. There should also be targets for identifying and rectifying misconnections of foul discharges to the surface water network since this would cause additional sources of pollution when separating surface waters from the sewer network in the future.

The plan anticipates an 80% reduction in discharges by 2050, leaving 20% to continue to discharge to the environment (or 80,000 discharges annually). These untreated discharges are known to contain high amounts of microplastics and harmful chemicals. It is therefore vital that the plan includes targets to stop pollutants from entering the wastewater system in the first place. Specifically, actions should be taken to address the items which are mis-flushed directly into sewers. These items pollute the environment via their release from overflows and can cause sewer blockages, which can flood homes and increase the burden on the sewer network. Actions should include:

- Supporting consumers to move to reusable products to support a circular economy and banning all avoidable single-use plastic in wet wipes and other sanitary items, such as tampon applicators, where alternatives exist.
- Applying Extended Producer Responsibility (EPR) to all sanitary products (not just those that contain plastic) and clean-up costs.
- Improved labelling and consumer awareness to promote correct disposal of items which are known to be flushed (e.g. a requirement for products to display 'Plastic in Product' and 'Do not flush').

The following actions should also be taken immediately to address contaminants that indirectly enter the sewer system:

- As a minimum, UK governments should keep up to date and fully aligned with REACH regulations, including the restriction on intentionally added microplastics and some PFAS among other concerning contaminants<sup>7</sup>.
- Restrict PFAS in all uses other than those considered essential for society, similar to the EU commitment in their Chemicals Strategy for Sustainability.
- The BSI PAS (Publicly Available Specification) supply chain certification for pre-production pellets should be mandatory for all companies operating in the UK<sup>8</sup>.
- Extended Producer Responsibility should be applied to all products (including chemicals) which routinely end up in wastewater as is already the case in the solid waste sector<sup>9</sup>.

- UK governments should introduce legislation that requires washing machine manufacturers to fit microfibre filters in all new domestic and new commercial machines by 2023 and all existing commercial machines are retrofitted with microfibre filters by 2024.
- UK governments and automotive industry, to produce a roadmap for the reduction of microplastics from roads, tyre particles and paints. This should include a standardised test, and rating system, to determine material loss, as well as capture technology on vehicles and treatment of water from road runoff.

### **More immediate action must be taken to reduce harm by 2030**

The proposed timeframes for delivery are far too slow. Currently the plan will see only 14% of overflows improved by 2030 and screening to prevent plastic pollution will not be required for all overflows for another 28 years. Timeframes should be brought forward to support delivery of other targets and government commitments for water quality and nature recovery.

By 2030, 100% of overflows should:

- not cause ecological harm in high priority areas (including all MPAs);
- not impact bathing or shellfish waters; and;
- have screening controls to limit discharge of persistent inorganic material.

In particular, we highlight that screening of overflows could easily be brought forward since the technology to implement this is well established and costs are relatively low. Currently the deadline for this sub-target is 2050, with no interim targets presented. This means that storm overflows could continue contributing plastic pollution to the environment for another 28 years and due to the persistent nature of plastic pollution this means that quantities in the ocean will continue to increase. There is also no mention of a minimum required standard for the controls e.g. screen size.

In a recent survey conducted by the Marine Conservation Society, of 5 water companies in England, we found that on average less than half of overflows (46%) had screens, ranging from just 12% for the lowest amount screened to 62%. Compared to other solutions for overflows the addition of screening is relatively low cost and therefore it is unclear why such a long timeframe is required, especially considering the contribution that this measure could have to reduce marine litter (an indicator of Good Environmental Status under the UK Marine Strategy), with sewage related debris being some of the most frequently found items on beaches. In 2021 the Marine Conservation Society's Great British Beach Clean found an average of 20 items of sewage related debris per 100m of beach surveyed in England. Therefore, we propose that all overflows should have screening controls by 2030 at the latest. This would align and contribute to the UK's commitment as a Contracting Party to OSPAR (S4.O3) to reduce marine litter by 75% by 2030<sup>10</sup>.

Nature based approaches should be prioritised, and we recognise that they may take longer to deliver and see results compared to traditional built infrastructure approaches. We however, want to ensure that nature based projects are initiated no later than 2030 with committed funding in place for the duration of the project. For these to be truly successful, it is important to ensure that mechanisms are already in place to remove persistent chemicals and microplastics which do not break down naturally.

Finally, we want to highlight that there is a lack of a mechanism for how water companies will be held accountable to the Targets. The Targets will only be successful in reducing environmental harm if there is sufficient capacity and funding for environmental regulators to ensure that they are

enforced. The plan should provide information on how water companies will be held accountable to the targets, how will progress be measured and what consequences will there be if they do not meet them.

**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**

The plan assumes that customers will pick up the whole bill for costs of improvements, without any mention of the routes available for water companies to foot at least some of the bill. With the recent announcement by Defra that some water companies are being investigated for the mis-management of their sewage treatment works and storm overflows Government should examine other financial mechanisms and routes to pay for the required improvements, not just relying on increased customer bills.

## References

- (1) <https://www.gov.uk/government/publications/state-of-the-water-environment-indicator-b3-supporting-evidence/state-of-the-water-environment-indicator-b3-supporting-evidence>
- (2) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1030980/storm-overflows-evidence-project.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1030980/storm-overflows-evidence-project.pdf)
- (3) <https://environment.data.gov.uk/dataset/21e15f12-0df8-4bfc-b763-45226c16a8ac>
- (4) <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/benthic-habitats/intertidal-seagrass/>
- (5) <https://consult.defra.gov.uk/natural-environment-policy/consultation-on-environmental-targets/>
- (6) <http://www.fwr.org/UPM3/Section2.pdf>
- (7) ECHA, (2019) Annex XV Restriction Report, Proposal for a Restriction: Intentionally Added Microplastics (<https://echa.europa.eu/documents/10162/05bd96e3-b969-0a7c-c6d0-441182893720>)
- (8) <https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/june/project-launch-first-specification-to-prevent-plastic-pellet-pollution/>
- (9) [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12405-Water-pollution-EU-rules-on-urban-wastewater-treatment-update\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12405-Water-pollution-EU-rules-on-urban-wastewater-treatment-update_en)
- (10) [https://www.ospar.org/site/assets/files/1200/north-east\\_atlantic\\_enviroment\\_strategy\\_compiled.pdf](https://www.ospar.org/site/assets/files/1200/north-east_atlantic_enviroment_strategy_compiled.pdf)

## Annex

Figures 1 – 4 show overflows within or adjacent to Special Areas of Conservation where seagrass restoration and protection projects are underway under a 4-year EU LIFE funded collaboration led by Natural England called 'ReMEDIES' (<https://saveourseabed.co.uk/>). This makes some of our remedial work to try and repair seagrass populations difficult if the water quality is compromised.



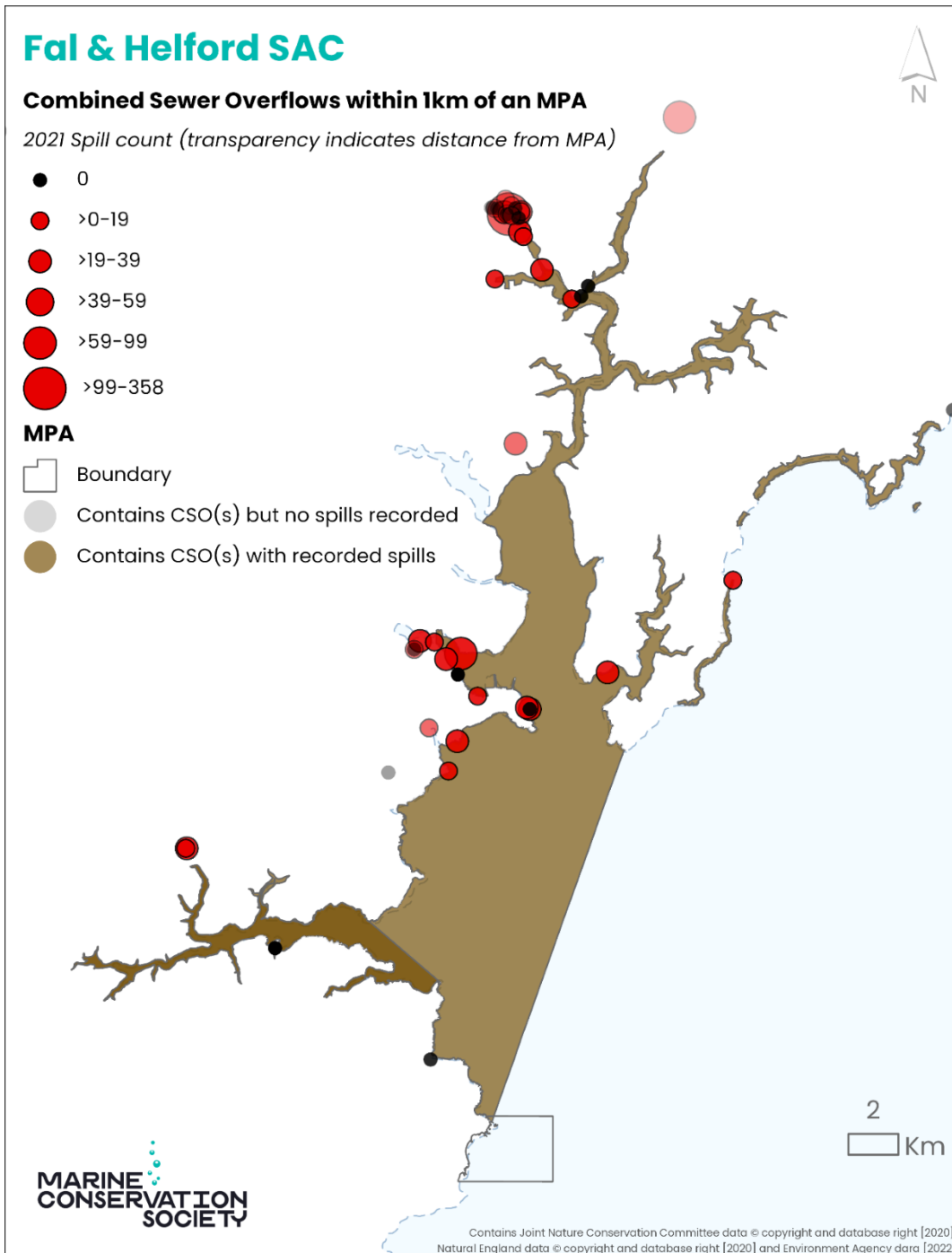


Figure 1. CSO discharges in 2021 adjacent to the Fal and Helford SAC.

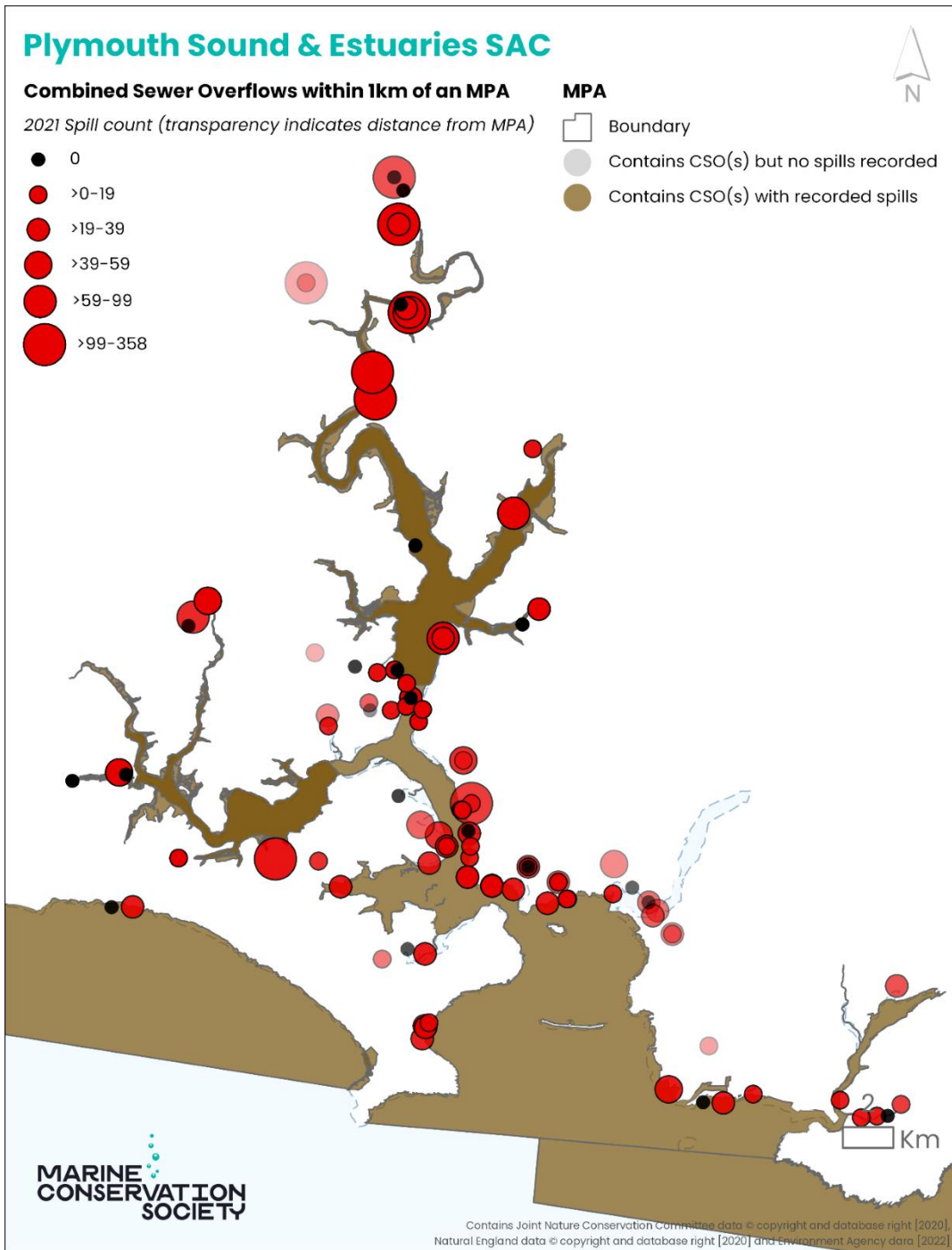


Figure 2. CSO discharges in 2021 adjacent to the Plymouth Sound and Estuaries SAC.

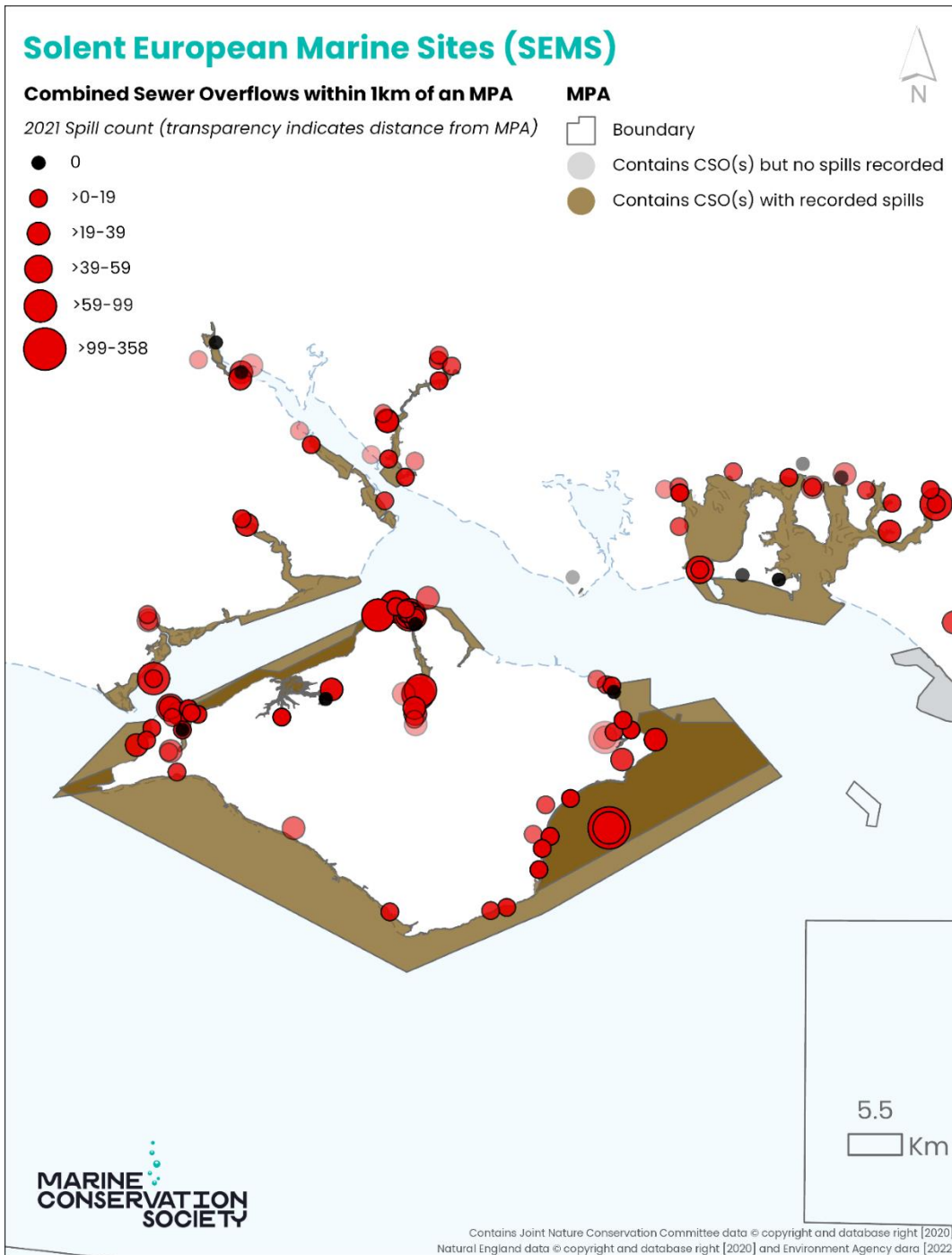


Figure 3. CSO discharges in 2021 adjacent to the Solent European Marine Site.

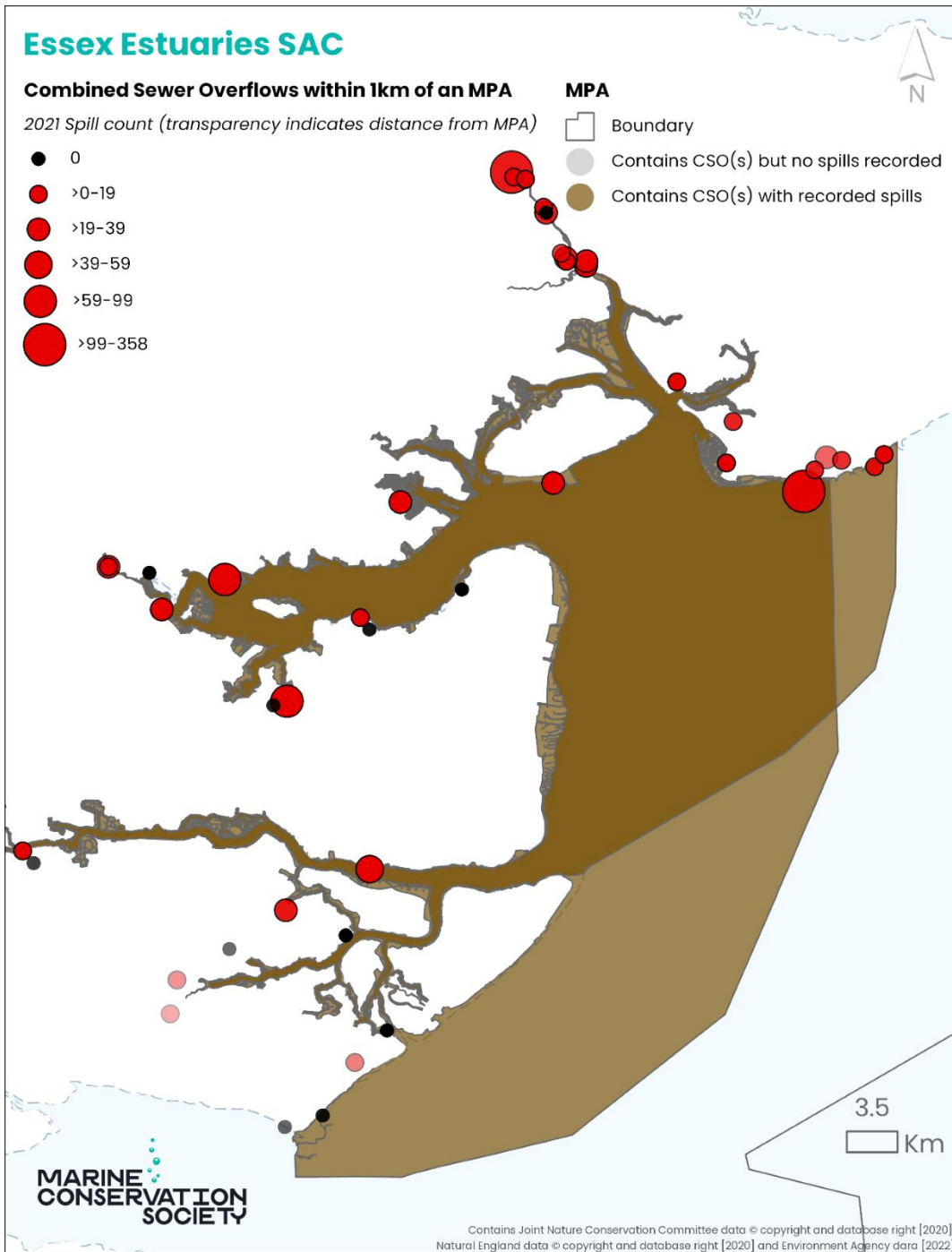


Figure 4. CSO discharges in 2021 adjacent to the Essex Estuaries SAC.