

Scottish Parliamentary Briefing by the Marine Conservation Society

Sewage Related Debris

Date Approved:
November 2021
Updated:
December 2022

We call on Scottish Government to:

Take action to reduce sewage related debris (wet wipes, sanitary pads (period and incontinence), tampons, tampon applicators and nappies) by:

- ✔ Setting progressive reduction targets for spills (frequency, duration and harm) by the end of 2022 and; installing electronic monitoring on all combined sewer overflows by 2024 (as a minimum this should include frequency and duration of spills). As a minimum this data should be published on an annual basis!
- ✔ Supporting reusable sanitary products and phasing out single-use plastic sanitary items.



Background

If sanitary waste, such as wet wipes, sanitary pads (period and incontinence), tampons, tampon applicators and cotton bud sticks, is incorrectly disposed of by flushing down the toilet it can end up in the marine environment. Collectively known as sewage related debris (SRD) these items can make their way to the sea when combined sewers overflow due to heavy rainfall or insufficient capacity in the network². Misconnections between the wastewater system in homes and businesses and the surface water system can also be a pathway for SRD to the environment³.

During the Marine Conservation Society's Great British Beach Clean 2022, an average of 88.2 SRD items were recorded per 100m of Scottish beach surveyed by volunteers compared to only an average of 9.1 and 10.7 SRD items per 100m on English and Welsh beaches respectively. On average SRD beach litter comprised only 8.9% of the total litter items recorded on surveyed beaches throughout the UK, compared to 17.9% in Scotland alone, underlining the need to take urgent action in Scotland to tackle SRD. Wet wipes consistently featured in the top 10 number of litter items found on surveyed Scottish beaches over the last five years.

SRD is discharged into the environment via combined sewer overflows (CSOs), sometimes referred to as storm overflows, which prevent combined sewers becoming overloaded during wet weather. During periods of intense rainfall they release a combination of untreated sewage (including SRD) and rain run-off into rivers and coastal waters. CSOs should only operate during extreme weather events, however the levels of SRD found on surveyed Scottish beaches suggests CSOs are being used on a more regular basis. Scottish Water are only required to report on spills from 3% of CSOs in Scotland (though they are currently monitoring around 9%). Scottish Water reported 10,763 spills in 2021 however this is only from the 3% of CSOs they are required to monitor meaning this does not reflect the true scale of the problem⁴. In comparison, over 80% of CSOs in England and Wales are monitored, with commitments for 100% to be monitored by the end of 2023⁵.

Although screens have been installed on some overflows to reduce the amount of SRD being discharged, results from a survey of UK water companies conducted by the Marine Conservation Society found that more than half (59%) of sewer overflows in Scotland are not screened⁶. Water companies in England are now required to ensure that all CSOs have screening controls⁷.

A survey conducted by YouGov for the Marine Conservation Society in 2016 found that almost three quarters of people in Scotland (71%) use single-use wet wipes. The most frequently used wet wipes were household cleaning wipes (43%), facial/skincare (35%), baby/toddler wipes (36%), and moist toilet tissue (24%). When asked about disposal of non-flushable wet wipes, in Scotland 8% in general tend to flush them, this is less than in other parts of the UK, with almost double the amount of people who use wet wipes tending to flush them in England (14%) and Wales (14%)⁸. This suggests that incorrect flushing behaviour is not likely the cause of higher amounts of SRD found on beaches in Scotland.

CSOs can impact the quality of the receiving water, including impacting on bathing water quality. 1% of bathing waters in Scotland are currently classified as 'Poor' and a further 20% as merely 'Sufficient'. Although CSOs are only one source of potential pollution, monitoring of all sewer overflows is a vital tool in determining pollution sources and whether there are issues with CSOs affecting bathing waters.

Environmental and socio-economic impacts

Sanitary items often contain plastics. For example, disposable period pads contain up to 90% plastic and tampons up to 6% plastic, and that is excluding applicators⁹. Wet wipes are usually manufactured from polyethylene terephthalate (PET), polypropylene (PP), cellulose or a combination of PET and cellulose¹⁰. Sanitary towels are usually made from PP, polyethylene (PE) or a combination¹⁰. PE and PP are two of the main plastics found in our ocean¹¹.

A recent study looking at the presence of fibres in sediments adjacent to a wastewater treatment plant consistently found white microplastic fibres that were comparable with the white fibres from wet wipes and sanitary towels, demonstrating that sanitary waste is a source of microfibre pollution in the marine environment¹⁰. The negative impacts of plastic litter (including microplastics) on marine wildlife are well documented. If ingested by marine life plastics can damage the digestive system, prevent digestion or stop animals from feeding. This in turn can cause impacts on growth, development, reproduction and lifespan¹² and can result in severe suffering and starvation¹³.

Marine life which ingests microplastics may also be exposed to higher levels of persistent organic pollutants adsorbed to the surface of microplastics¹⁴.

Once sanitary items, particularly wet wipes, have been flushed into sewers they can combine with fats and oils, reducing capacity in the sewer. This can increase the frequency that sewers overflow and cause blockages, often called 'fatbergs', resulting in environmental pollution and flooding of homes and gardens. There are over 300,000 sewer blockages throughout the UK every year, costing £100 million to clear up. A study by Water UK in 2017 found that non-flushable wet wipes comprise around 93% of the material causing sewer blockages¹⁵.

The Solutions

We would always advocate that stopping pollution at source is the priority; intervention should be as early as possible (**see box 1**). A shift to reusable products would reduce the number of flushed items, but additional steps can be taken to reduce the amount entering the wastewater network, alongside Scottish Water putting in place measures to stop pollution escaping from the network (**see box 2**).



1. Stop generating waste and prevent it from entering the wastewater network. This has been shown to be cost effective and to significantly reduce the quantity of SRD. Measures include:

- Supporting consumers to move to reusable products.
- 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) to cover clean-up costs.
- Improved labelling and consumer awareness to promote correct disposal. As a minimum this should include requirements from the EU Single Use Plastics Directive (e.g. a requirement for products to display 'Plastic in Product' and 'Do not flush' labels).



2. Use best available techniques to stop pollution escaping from the wastewater network. These measures provide additional benefits such as improved water quality and reduction of litter discharged through sewer overflows from road/storm water runoff.

- Progressive reduction targets for spills (frequency, duration and harm) must be set by the end of 2022. All combined sewer overflows to have electronic monitoring by 2024. Monitoring data should be reported annually, and made publicly available in real-time. As a minimum should include frequency and duration of spills, but additional information on volume and impact on water quality should be provided wherever possible.
- Real-time spill information should be proactively provided to the public for bathing waters and shellfish waters. This could further refine the bathing water quality predictions which were pioneered by SEPA.
- All CSOs should be reviewed to ensure they are meeting their permit requirements, and are only operating under extreme rainfall conditions.
- Screens should be installed on all CSOs to reduce discharge of solid pollution e.g. plastic. Sewage-related debris contributes to marine litter and should be addressed for all CSOs (not just those discharging to recreational waters).
- No new CSOs should be permitted and the use of current CSOs should be phased out (e.g. by using sustainable urban drainage and nature-based solutions to reduce run-off into the sewer network), prioritising all high spilling CSOs and those affecting protected areas e.g. bathing waters, shellfish waters and nature conservation areas.

**To arrange a meeting or find out more information please contact:
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Together we can make a difference

References:

- [1] This is now a requirement in England as a result of the Environment Act 2021 (legislation.gov.uk)
- [2] <https://www.ospar.org/documents?v=40943>
- [3] <http://www.connectright.org.uk/>
- [4] Figures provided by Scottish Water via email to Marine Conservation Society November 2022
- [5] <https://www.water.org.uk/news-item/water-uk-responds-to-edm-data/and>
<https://environmentagency.blog.gov.uk/2021/03/31/event-duration-monitoring-lifting-the-lid-on-storm-overflows/>
- [6] MCS water company survey 2021
- [7] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1101686/Storm_Overflows_Discharge_Reduction_Plan.pdf
- [8] Survey conducted by YouGov, on behalf of the Marine Conservation Society.
All figures, unless otherwise stated, are from YouGov Plc. Total sample size was 2,022 adults, of which 191 resided in Scotland. Fieldwork was undertaken between 14th - 15th June 2016. The survey was carried out online. The figures have been weighted and are representative of all GB adults (aged 18+).
- [9] <https://edu.rsc.org/feature/single-use-plastic-in-period-products/4013167.article>
- [10] <https://www.sciencedirect.com/science/article/pii/S0043135420305583?via%3Dihub>
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- [13] https://www.researchgate.net/publication/315386479_Harm_caused_by_Marine_Litter
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- [15] <https://www.water.org.uk/>
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Registered charity in England and Wales 1004005 and in Scotland SC037480.
Registered company limited by guarantee in England and Wales 02550966.
Registered office: Overross House, Ross Park, Ross-on-Wye, HR9 7US. VAT number: 321491232.



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