

Introduction

This document was created with the aid of information provided by Andy Tyerman and Geoff Crawford of the [ESCAPE – End Sewage Convoys and Pollution Exmouth](#) face-book page that campaigns against the pollution of beaches and rivers by the release of sewage from CSOs (Combined Sewer Overflows) by SWW (South West Water), the private company responsible for the supply of fresh water and foul sewage treatment in an area covering Devon and Cornwall plus.

Interest in the topic was developed after I received notifications of two meetings held by the Scrutiny Committee of EDDC (East Devon District Council) at which presentations were made by representatives of SWW followed by question and answer sessions. Both meetings were recorded on video. Links to the video of first meeting are given below to EDDC's record as provided by council officers. I suggest reading the notes of item 41# before following the links to the video recording of the first meeting as it provides a good summary that will help clarification of the issues raised.

[EDDC's Meeting Record for 2 November, 2022](#)

[Item 41 Notes#](#)

[Video recording of the first meeting on 2 November, 2022](#)

Mr Burrows presentation starts at 6.37 mins and ends at 23.38 mins; questions and answers from committee members follow with an end at 48.20 mins approx and these are followed by those from others. The latter are more searching than the earlier ones and were read out by a council officer as well as being supplied to Mr Burrows before the meeting, but there is no written record of these provided by EDDC! In the meeting on [17 October, 2022 of the ETC \(Exmouth Town Council\)](#) referred to there were 16 questions asked of Mr. Vosper and a colleague from SWW. In an answer to Q2 it is stated that “**Maer Road CSO**, which discharges off **Straight Point** is not associated with Exmouth beach and is not included in BeachLive for Exmouth. **Maer Lane** is.”. This is not true. It is the **Maer Lane Sewage Treatment Works** that discharges off **Straight Point** (Sandy Bay) and this discharges as a CSO when overloaded!

Q12a begins:-

“The actual location of the sewage discharge outlet from SWW's Maer Road and Maer Lane facilities (sic) uncertain. Some documents suggest that it occurs from the concrete pipe to the west of Maer Rocks (via Littleham Brook as per the permit) and other documents that it takes place from the metal pipe at the end of Maer Rocks. None suggest that it is any further out to sea than these locations, both of which are situated within 350m of the shore at high tide, and a much shorter distance than this at low tide.”

It continues:-

“Exmouth Town Council proposes that SWW commit to carrying out a tracer test, e.g. dye or some other marker, to ascertain exactly where sewage outflows from their Maer works takes place. When can this be done in the presence of one or more representatives of the council?”

In reply, Mr Vosper “apologised for any uncertainty over this matter and explained that the Maer Lane waste-water treatment works and Maer Road CSO have separate permits which dictate the exact discharge location and conditions. A dye release test to confirm the exact location would be subject to EA approval but in principle, SWW would be agreeable to this with Councillor representatives present.”

(A dye test was carried out in June 2023 but no dye was detected. I understand that a further test is to be carried out – RS)

It is clear that there is/was confusion between Maer Lane and Maer Road. Maer Lane is the location of the sewage treatment works while north of Maer Road there is a pumping station that lifts its output to the Maer Lane treatment works and is fed across the road from a storage tank on the Maer itself. I have been advised by ESCAPE that the CSO pipe of the storage tank is the same as that of the pumping station on the other side of Maer Road. The CSO outlet pipe of the storage tank is thought to go to the southernmost end of Maer Rocks. The pipe from Littleham brook and that from the underground storage tank are the only 2 pipes used; others shown on diagrams are no longer used.

There should be no foul sewage pipes feeding Littleham brook but I believe that a possible source of pollution is from the excrement of dairy cattle sheltering from rainfall under trees that line its route north-east of Littleham village and any other run-off from the farm land.



In February, 2021 a lot of sand was lost from Exmouth beach in the area near the lifeboat station, in particular. (In the two years since, the lifeboat ramp has been extended and sand has returned to cover the pipes.) The following two photographs were included in a post by Melvyn Hill to the Exmouth – Past & Present facebook page:-









Pipe from Littleham brook leading to western edge of Maer Rocks

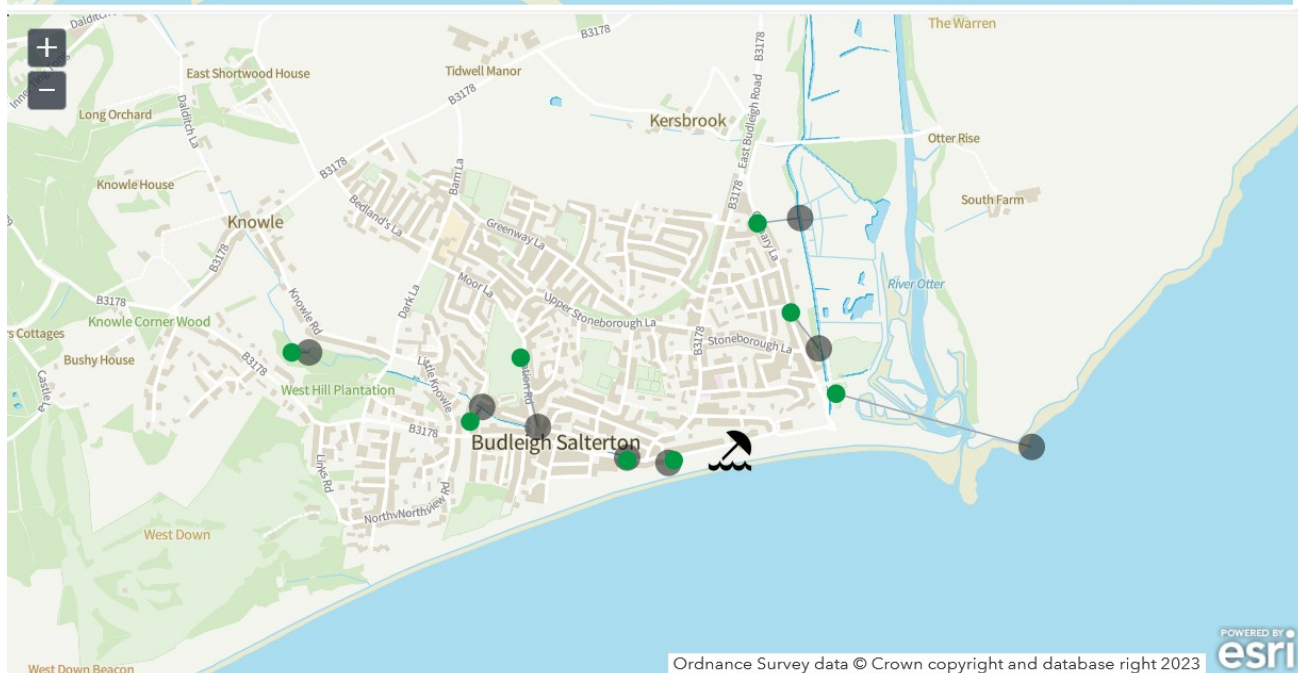
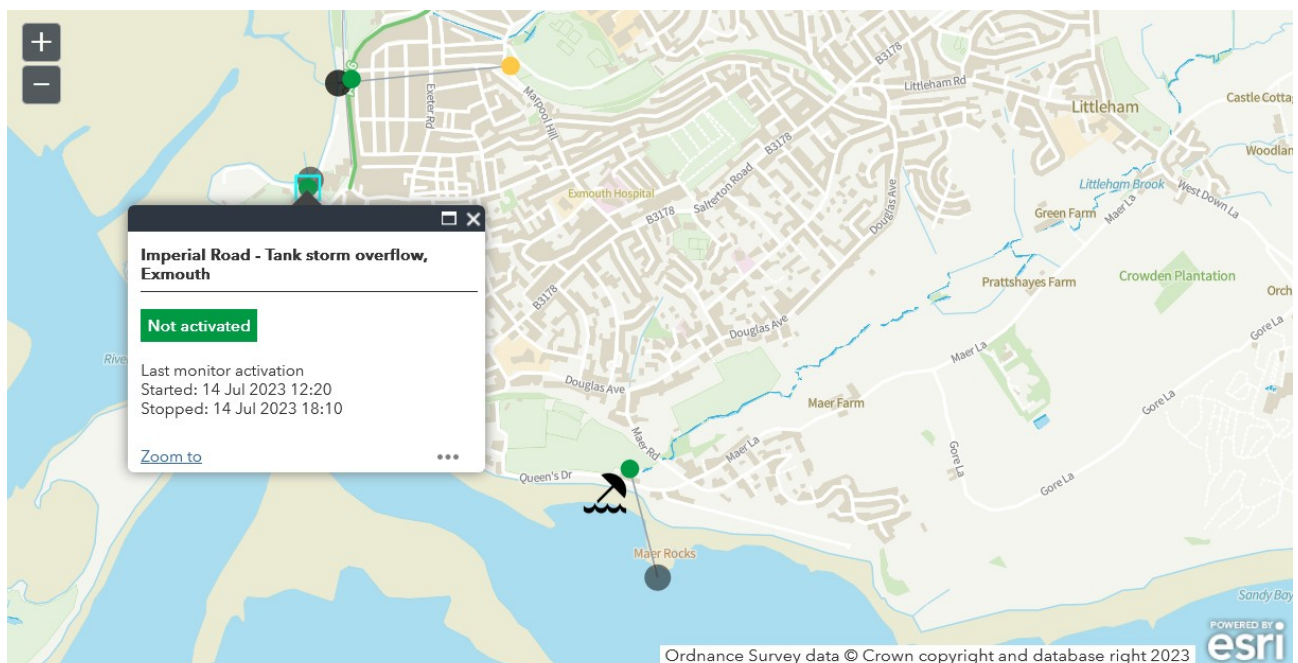


Pipe from the CSO storage tank on the Maer

The WaterFit **program/app** shows the locations of EDMs and CSO pipe outlets for Exmouth and Budleigh beaches below, with a key to indicate status and name of locations revealed by clicking on a coloured disc:-

Monitor activation status

-  Monitor not activated
-  Monitor activated in the last 24 hours
-  Monitor activated
-  Monitors undergoing maintenance, investigation or improvement
-  Outlet location
-  Beach name



Section headings below have been taken from this [Environment Agency Guide](#) with my comments.

Counting spills: bathing and shellfish waters

We will agree spills, in terms of significance and counting method, at the scoping stage of the project. This will be on a site-specific basis.

In general, a spill greater than 50m³ is considered significant.

Count spills using the 12/24 counting method:

1. Start counting when the first discharge occurs.
2. Any discharge (or discharges) in the first 12-hour block are counted as one spill.
3. Any discharge (or discharges) in the next, and subsequent 24-hour blocks, are each counted as one additional spill per block.
4. Continue counting until there's a 24-hour block with no discharge.

For the next discharge after the 24-hour block with no discharge, you begin again with the 12-hour and 24-hour block spill counting sequence.

(Spills must be counted RS.)

Event duration monitoring (EDM)

The Environment Agency sets monitoring requirements using a risk-based approach.

Monitoring and reporting requirements depend on the significance of the discharge. The significance of the discharge is based on spill frequency and amenity.

Storm overflows with less than one spill per year are classed as 'D – low significance'. They do not require any monitoring.

High amenity: monitoring and reporting

Discharges are classed as being to high amenity when the receiving waters:

- include areas where bathing and water contact sport (immersion) is regularly practised, for example windsurfing and canoeing
- are designated shellfish waters
- are designated bathing waters

Discharges to high amenity waters with one or more spills per year are classed as 'A – high significance'.

For high significance discharges you must:

- carry out EDM with telemetry in real, or near real, time
- carry out spill monitoring at 2 minute intervals

- submit an annual or bathing water season report summarising the total number and duration of spills
- provide a detailed report of start and end times for individual spill events if we ask for it

From WaterFit Live Exmouth Beach (as of 25 July, 2023):-

Maer Road Pumping Station Overflow – Started 14 July, 2023 11:42 Stopped 14 July, 2023 22:07

Hartopp Road – Started 14 July, 2023 10:25 Stopped 14 July, 2023 21:50

Imperial Road Tank Storm Overflow – Started 14 July, 2023 12:20 Stopped 14 July, 2023 18:10

Phear Park Pumping Station Overflow – Started 20 July, 2023 05:01 Stopped 20 July, 2023 05:02

(Possibly not working until 20 July !)

(All the above should be considered “High Amenity” The criterion of 50 m³ per spill is not relevant if the volume is not available RS!)

From the same WaterFit Live page:-

We are currently working on a project to improve Maer Road and Phear Park pumping stations' storm overflows performance. This will reduce them to less than 10 significant (greater than 50 metres cubed) spills per year on average. **We also plan to further enhance the screening on the storm overflows to reduce sewer debris when they discharge.**

(Clearing of the screens requires maintenance – if carried out at the actual discharge outlets it is likely to be easier than screens fitted further upstream unless the discharge outlets are under the sea RS.)

We are working with the EA to target completion by March 2025.

The work we are planning includes:

- preventing surface water from entering the sewerage network at Seymour Avenue and Denning Court. This helps reduce the volume of water in the network and therefore reduces the need for storm overflows to operate
- making improvements to the network to help reduce groundwater infiltration
- transferring more wastewater to the Maer Lane sewage treatment works for storage and treatment
- starting work (which will complete after March 2025) to increase treatment capacity to support the transferred wastewater
- upgrading the sewage treatment works outlet pipe through Sandy Bay holiday park and out to sea off of Straight Point.

The number of spills is not the same as the number of discharges!

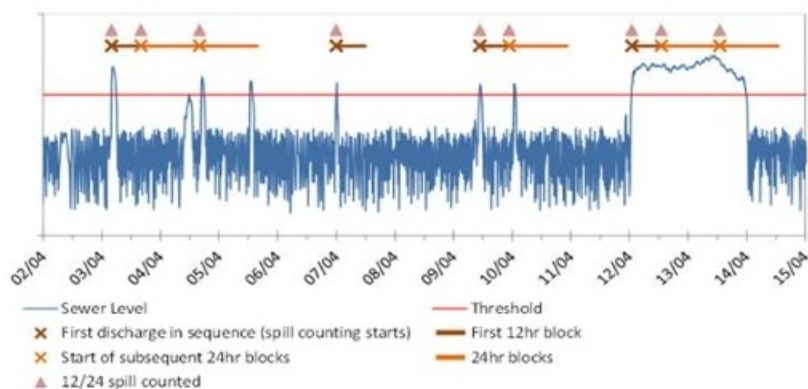
[This page image extracted from an EA blog](#)

How are spills counted?

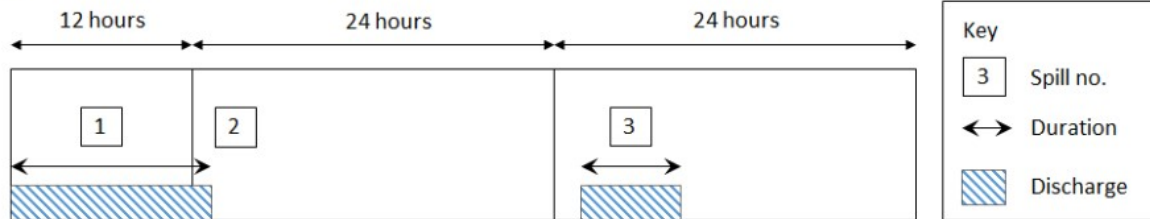
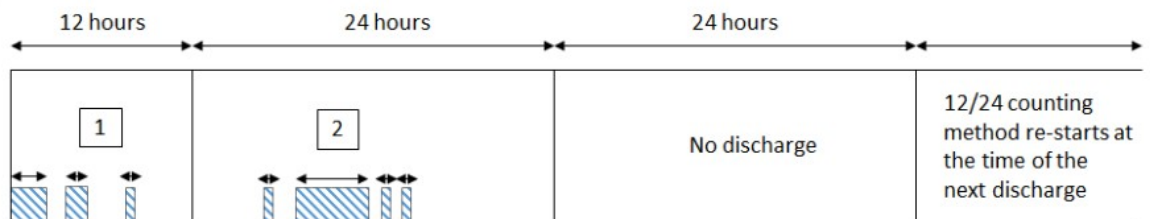
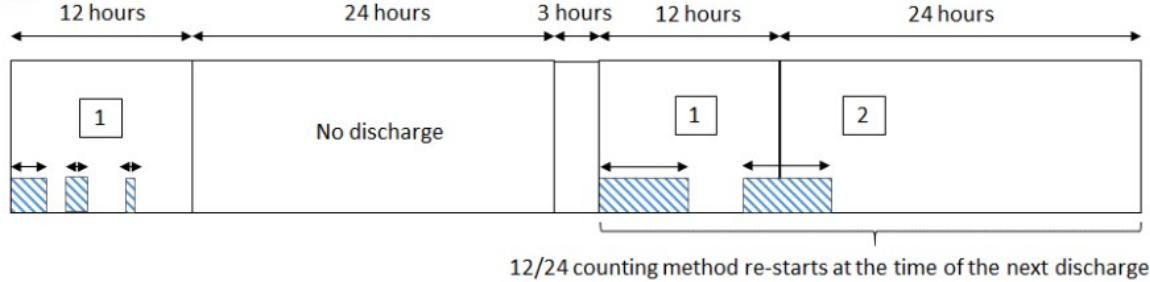
Different types of sensors and equipment can be used to monitor storm overflows, so all raw overflow event data must be analysed using a spill counting tool to ensure that data handling is consistent between sites and organisations. Using this standardised approach allows spill performance to be compared between locations and against environmental regulations.

This tool transposes the data into the **12/24 spill counting method**, as defined by Defra:

- Spill counting starts when the first discharge occurs.
A discharge occurs when the sewer level exceeds the threshold level.
- Any discharge(s) in the first 12-hour block is counted as 1 spill.
- Any discharge(s) in the next and subsequent 24-hour blocks are each counted as 1 additional spill per block.
- This counting continues until there is a 24-hour block with no discharge.
- For the next discharge after the 24-hour block with no discharge, the 12 hour and 24-hour block spill counting sequence begins again.



The chart above illustrates the application of 12/24 spill counting to real level data, with the start points of 12- and 24-hour blocks being determined by when recorded level exceeds an overflow threshold. The data in chart below shows a total of nine 12/24 spills counted.

Clearer illustration of spill number and duration**Example 1****Example 2****Example 3**

Some Relevant Links

[Exmouth WaterFit Pages](#)

[Budleigh Salterton WaterFit Pages](#)

[ArcGIS World Map Search Page](#)

[UK \(England\) Storm Overflows Location Map](#)

[South West Water Event Duration Monitoring Annual Report for 2022](#)

[South West Water WaterFit Live Page](#)

[Optimised Design of Stormwater Tanks – Grundfos](#)

[Optimised Design of Stormwater Tanks – pages 1-14 Comments](#)

[Environment Agency Blog – Storm Overflow Spill Data Released - 31 March, 2022](#)

[Exmouth Town Council – Flooding and Land Drainage Working Party Meetings](#)

[SWW Drainage and Wastewater Management Plan – Exe \(May 2023\)](#)

[Storm Overflow Assessment Framework EA](#)

[Spill Counting Method \(from Storm Overflow Assessment Framework\)](#)

[Storm Overflows Discharge Reduction Plan 26 August 2022](#)

[The Rivers Trust Sewage Map \(England CSOs\)](#)