

# Towards Building and Evidence Base for CROWD

## 1: Waste Water Management in CROWD area

The water companies must develop strategies and follow a 5 year Asset Management Plan (AMP). The public consultation by Wessex Water for its AMP8 (2025-2030) has ended. Its AMP8 intends to reduce all its storm overflows to less than 10 occasions/year at a cost of about £80/household/year. They are required to have monitors for each outflow (Fig 1).



**Fig 1:** Stormflow monitors installed by Wessex Water (dark blue) and to be installed in 2023 (light blue) in the CROWD area.

In 2021, most of these outflows discharged more than 10x each. Wessex Water and South West Water had 526 spills into CROWD rivers for a total of 5241 hours in 2021 (Table 1). Wessex Water spills in the CROWD area represent 2.8% of their total spills for 4.1% of the total duration by that company. South West Water has 4 storm outflows in the Lyme Regis region that each spilled 10-34x in 2021. It also has a pumping station (at Cobb Gate) whose sewer storm overflow spilled directly into Lyme Bay on 18 times for a total of 22 hours in 2021. These storm outflows should be set in the context that rainfall above the expected average for South-West England in 2021 occurred in May (c250%), July (c155%), and October (c175%; Source [Water situation report for England December 2022 \(publishing.service.gov.uk\)](#)). There were 2,191 spills for 19,024 hours by Wessex Water in West Dorset parliamentary constituency in 2021. Wessex Water also acknowledge the need to improve some storm overflows that discharge into environmentally sensitive waterbodies (e.g.

bathing waters, shellfish waters, chalk stream, designated environmental sites) to a higher standard by 2035 but consider this will only be delivered by towards 2050. No evidence is provided of the lack of risk to human health from raw sewage diluted by rainfall during storm overflows.

**Table 1:** Number and total duration of sewage storm overflows in the CROWD area by water companies in 2021 by river and locality from records of The Rivers Trust ([Sewage Map | The Rivers Trust](#)).

| Water Company      | River              | Approximate location | Number of spills | % total spills | Total duration (hr) | % total duration |
|--------------------|--------------------|----------------------|------------------|----------------|---------------------|------------------|
| Wessex Water       | Bride              | Puncknowle           | 113              |                | 2185                |                  |
|                    |                    | West Bexington       | 87               |                | 1048                |                  |
|                    |                    | Burton Bradstock     | 2                |                | 7                   |                  |
|                    |                    | <b>Sub Total</b>     | <b>202</b>       | <b>31%</b>     | <b>3240</b>         | <b>53%</b>       |
|                    | Brit               | Beaminster           | 56               |                | 440                 |                  |
|                    |                    | Netherbury           | 33               |                | 293                 |                  |
|                    |                    | Bridport             | 59               |                | 184                 |                  |
|                    |                    | Bridport             | 0                |                | 3                   |                  |
|                    |                    | Bridport             | 47               |                | 76                  |                  |
|                    |                    | Bridport             | 9                |                | 46                  |                  |
|                    | Mangerton          | Powerstock           | 5                |                | 14                  |                  |
|                    |                    | Bridport             | 35               |                | 141                 |                  |
|                    | Asker              | Bridport             | 9                |                | 46                  |                  |
|                    |                    | <b>Sub Total</b>     | <b>253</b>       | <b>39%</b>     | <b>1243</b>         | <b>20%</b>       |
|                    | Simene             | Bridport             | 36               |                | 228                 |                  |
|                    |                    | <b>Sub Total</b>     | <b>36</b>        | <b>5%</b>      | <b>228</b>          | <b>4%</b>        |
|                    | Winneford          | Chideock             | 62               |                | 700                 |                  |
|                    |                    | Seatown              | 13               |                | 37                  |                  |
|                    | <b>Sub Total</b>   | <b>Sub Total</b>     | <b>75</b>        | <b>11%</b>     | <b>737</b>          | <b>12%</b>       |
|                    |                    | Char                 | 3                |                | 1                   |                  |
| <b>Sub Total</b>   | <b>Sub Total</b>   | <b>3</b>             | <b>0%</b>        | <b>1</b>       | <b>0.02%</b>        |                  |
|                    | South West Water   | Uplyme               | 30               |                | 469                 |                  |
| 34                 |                    |                      |                  | 130            |                     |                  |
| Lyme Regis         |                    | 12                   |                  | 8              |                     |                  |
|                    |                    | 10                   |                  | 73             |                     |                  |
| <b>Sub Total</b>   | <b>86</b>          | <b>13%</b>           | <b>680</b>       | <b>11%</b>     |                     |                  |
| <b>Grand Total</b> | <b>Grand Total</b> | <b>655</b>           |                  | <b>6129</b>    |                     |                  |

Values in red indicate location where 10 or more spills occurred in 2021.

## 2: Government requirements for Water Companies

Each water company must designate their outflows as unsatisfactory, substandard or satisfactory. Factors that lead to an unsatisfactory status are:

- 1 operating in dry conditions
- 2 a breach of permit conditions
- 3 causing significant visual or aesthetic impact due to solids or sewage fungus
- 4 a significant contribution to a deterioration in the biological or chemical status of the receiving water

The Rivers Trust indicates that Wessex Water identifies reasons for outflows at three sites. That at Chideock was due to infiltration (of groundwater) and those at West Bexington into the sea and that at Beaminster into the Brit were due to hydraulic capacity. The latter designation suggests these two locations are classifiable as unsatisfactory.

Water companies are required to carry out 18 risk based indicators to identify when further study is required with a Baseline Risk and

Vulnerability Assessment. The CROWD catchments failed 1, 8, 4 and 5 indicators for Puncknowle, Bridport, Chideock and Charmouth respectively. Storm overflows featured for all but Chideock. The Bridport catchment had a pollution incident(s). The follow-on assessment indicated significant issues (Table 2).

**Table 2:** Outcome of Baseline Risk and Vulnerability Assessment (BRAVA) of catchment in the CROWD area ([DWMP BRAVA Risk Dashboard \(arcgis.com\)](#))

| Planning Objective                        | Catchment  |          |          |           |
|---|------------|----------|----------|-----------|
|   | Puncknowle | Bridport | Chideock | Charmouth |
| 1. Internal Flooding                      | 0          | 0        | 0        | 0         |
| 2. Pollution Risk                         | 0          | 1        | 0        | 0         |
| 3. Sewer Collapse Risk                    | 0          | 1        | 0        | 1         |
| 4. Blockages Risk                         | 0          | 0        | 1        | 0         |
| 5. Risk in a 1 in 50 Year Storm           | 0          | 0        | 2        | 1         |
| 6. Storm Overflow Performance             | 0          | 0        | 1        | 1         |
| 7. Risk of WRC Flow Compliance Failure    | 2          | 2        | 1        | 1         |
| 8. Risk of WRC Quality Compliance Failure | 0          | 0        | 0        | 0         |

Key: scores are 2, very significant; 1, moderately significant and 0, not significant. WRC is water resource catchment.

In the CROWD area, Wessex Water is improving the storm overflow at West Bexington by 31/03/2025 to <20 overflows/year (Storm Overflows Improvement Plan 2022-25 PDF).

### 3: Key Issues

1. The information that might be sought from Water Companies includes:
  - a. The date and timing of each spill in the CROWD area
  - b. The duration and extent of rainfall causing a storm overflow at each site
  - c. Evidence that no spill represents a human health hazard taking into account seasonal factors such as exposure to those on holiday and local users of bathing waters.
  - d. The increased storage volume needed at each site to reduce spillages to <10x /year.
  - e. Identification of which storm outflows Wessex Water rate as unsatisfactory or substandard as required by Government ([Water companies: environmental permits for storm overflows and emergency overflows - GOV.UK \(www.gov.uk\)](#))
  - f. An explanation of why a huge range of 0-113 spills occurred in 2021 within the CROWD area. The local rainfall range across its small geographical expanse is unlikely to be very large.

### Discharge of final/treated effluent by other than water companies in CROWD rivers

The approximate number of sites are: one discharging into each of the Simene and

Winneford, two into the Bride, six into the Char and one into a stream entering Lyme Bay directly. There are many soakaways which presumably do not pollute any of the rivers.

Sampling does not reveal an appreciable consequence of discharge of final/treated effluent from a small discharge point on the biological quality of the Mangerton. This conclusion is based on comparing its monitored site below the discharge point relative to the Asker at Lodors which lacks such a discharge upstream of its sample point.

### 4: Possible roles for Citizen Science in support of CROWD

DEFRA 2012 estimated 59% of nitrates and 26% of phosphates in English waters are of agricultural origin. The standard sought is 30mg/L for nitrates and 100µg/L for phosphates. In 2006, 29% and 50% of UK rivers exceeded these values Data could be collected by volunteers if the required data on water quality is not available from Wessex Water or the Environment Agency. Measurements could be:

- 1 Comparative measurements above and below discharge points of concern
- 2 Measurement directly from a storm overflow which may be difficult to achieve
- 3 Measurement could be made of:
  - a. turbidity
  - b. phosphate levels with simple, inexpensive strips (c£18 for 25 strips; in use by Asker monitors and with West Country River Trust monitors but not its citizen scientists)
  - c. nitrate levels with simple, inexpensive strips (c£26 for 25 strips, the river water may need diluting c3x with deionised water; in use with West Country River Trust monitors but not its citizen scientists)
  - d. Detection of coliform bacteria. This is relatively expensive (c£30 for 4 tests) and is not in use with West Country River Trust. It may be better achieved through a lab. if not measured for CROWD by Wessex Water or Dorset Council (who publish values for seaside waters). West Country River Trust may help identify a lab but presumably would not pay.
  - e. Low values from Riverfly monitoring could detect any “significant contribution to a deterioration in the biological status of the receiving water” (see section 2).

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