**Waste Water Treatment and Remaining Headroom - Jan 2022**

The planning policy team has been working with Southern Water and the Environment Agency to update information about wastewater treatment capacity to inform the Local Plan Review.

An initial [Statement of Common Ground](https://www.chichester.gov.uk/dutytocooperate) was agreed with the Environment Agency and Southern Water in November 2021. The Statement will be updated as the plan preparation progresses. In advance of a full update this note provides an estimate of remaining headroom at wastewater treatment works in the Chichester Plan Area as at Jan 2022, based on the most recent Dry Weather Flow data.

[Position Statements](https://www.chichester.gov.uk/article/29757/Supplementary-planning-documents-and-policy-guidance) are in place for the treatment works at Chichester Apuldram and Thornham to manage the remaining headroom, linked to the Surface Water and Foul Drainage Supplementary Planning Document.

**Estimated remaining headroom at each WWTW:**

Table 1 below gives an indication of remaining headroom at each Wastewater Treatment Works (WWTW) at 1 Jan 2022 based on a comparison of current Environment Agency permits to average dry weather flow (DWF) Q80 data for the period 2017-2021. Average waste water of 500l per household per day is used to estimate remaining headroom within the Q80 on the advice of the Environment Agency and in line with Southern Water’s guidance on calculating Dry Weather Flow Headroom for Local Plans.

It should be noted that Q80 is not the point at which the permit limit is reached but is rather the point at which Southern Water would usually apply to the Environment Agency for an increase in the permit. An explanation of the Q80 and its use to calculate dry weather flow is available at: [Calculating dry weather flow (DWF) at waste water treatment works - GOV.UK (www.gov.uk)](https://www.gov.uk/government/publications/calculating-dry-weather-flow-dwf-at-waste-water-treatment-works/calculating-dry-weather-flow-dwf-at-waste-water-treatment-works)

In summary, the Q80, or the 20th percentile figure, is the value exceeded by 80% of the recorded daily values of total daily volume (TDV) to the treatment works and provides a good estimate of Dry Weather Flow. If you have 365 measured values of TDV in a year ranked from lowest to highest, the Q80 is the 73rd value.

This differs from the way compliance with the permit is assessed, which uses the Q90, i.e. the value exceeded by 90% of recorded total daily volume. From 2026 a permit will be considered to be breached if the Q90 has been exceeded in the compliance assessment year and two or more of the preceding 4 calendar years.

Due to environmental constraints, primarily groundwater infiltration, the apparent remaining headroom at Chichester (Apuldram) and Lavant is not available for use in practice and so column 4 shows capacity at those 2 works as zero.

It is important to note that this calculation is based on a simple comparison between measured dry weather flow to the works and the EA permit. **It does not take specific account of additional housing permissions, but is based on actual flows so will include flows from any housing already built.** The Dry Weather Flow information is updated annually and so this information will be updated as new DWF information becomes available. There can be large fluctuations in the measured DWF from year to year. As such it is important to note that this is an estimate of available headroom within the Q80 at a particular time - **there is not a direct correlation between new housing completions and DWF.**

**Table 1: Estimated Remaining Dry Weather Flow Headroom within the Q80. 1 Jan 2022.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **WWTW** | **1. Consented DWF (EA permit) (m3/day)** | **2. Average Q80 DWF/day 2017-21** | **3. Average remaining DWF headroom within the Q80 (m3 per day) ( 1-2)** | **4. Estimated remaining dwelling capacity (based on 500l phpd)** |
| Bosham | 1221 | 1064 | 157 | **314** |
| Chichester (Apuldram) | 13524 | 10756 | 2768 | **0** |
| Kirdford | 165 | 96 | 69 | **138** |
| Lavant | 1696 | 664 | 1032 | **0** |
| Loxwood | 767 | 800 | -33 | **-66** |
| Pagham | 2309 | 2026 | 283 | **566** |
| Sidlesham | 5800 | 5769 | 31 | **62** |
| Tangmere | 3000 | 1222 | 1778 | **3556** |
| Thornham | 6565 | 6116 | 449 | **898** |
| Wisborough Green | 324 | 233 | 91 | **182** |
| Total | 35371 | 28746 | 6625 | **5650** |

**Source: Table compiled by CDC using data from the Environment Agency and Southern Water.**

**Note prepared by CDC: March 2022, updated with additional explanation of Q80 Jan 2023.**