

Introduction

South West Water provides 1.6 million people with water and sewerage services in Devon, Cornwall and parts of Somerset and Dorset.

The South West is a particularly unique region that includes a third of the English and Welsh coastline and 144 designated bathing waters.

We operate 630 sewage treatment works, which receive 55 million gallons (250 thousand cubic meters) of sewage for treatment every day via 852,899 sewage pumping stations and 5,703 miles (9,178km) of public sewers.

CSOs are essential features of older combined sewer systems, mainly constructed before 1970, when it was common practice for foul sewage and surface water to be collected in the same pipe. During times of heavy rainfall, when the sewers and pumping stations become overwhelmed, CSOs enable excess flows to be discharged into the sea, rivers or watercourses in a controlled and regulated way. This is to protect homes, gardens, highways and open spaces from sewage flooding.

CSOs have to comply with strict European legislation and are regulated by the Environment Agency (EA) through discharge consents which prescribe the conditions under which they can operate. New consents are only permitted under exceptional circumstances.

In this region we have just over 1,700 CSOs and from 2000 to 2010 South West Water has invested £75 million to reduce the volume and improve the quality of discharges in the most sensitive areas including bathing and selfish waters.

Following new EA consents, all of our intermittent discharges were deemed to be operating within consent.

Bathing Water Quality

Bathing water quality is affected by several variables including urban drainage, agricultural run-off, private sewers and birds as well as South West Water's infrastructure.

The Bathing Waters Directive sets out water quality standards and requires regular monitoring of water quality at popular bathing beaches. The Environment Agency is responsible for this monitoring and samples are taken 20 times at 191 beaches in the South West during the period May to September.

Since 2001, at least 100 bathing waters consistently meet the 'excellent', or guideline, quality standard, compared with just 38 before the start of the Clean Sweep investment in 1991.

The region also has more beaches recommended by the Marine Conservation Society in its Good Beach Guide than anywhere else in the UK. In 2009, out of 144 designated bathing waters in the South West Water region, covering Devon, Cornwall and Lyme Regis in Dorset, 139 or 96.5% met or exceeded the European Union's good (mandatory) and 106 or 73.6% met the excellent (guideline) standard.

We have reached the point where we now highlight the rare failures, whereas before Clean Sweep we talked about how few made the standard. As soon as a bathing water sample fails, we work with the Environment Agency to investigate the performance of our infrastructure which might affect quality at those bathing waters

Tourism and environmental leaders are in no doubt that Clean Sweep has transformed the quality of the region's bathing waters, but it has meant that three per cent of the population of England and Wales has had to pay for cleaning up 30% of the coastline.

River Water Quality

In 1990, 80.83% of the monitored stretches of rivers in the South West Water region met the top two classes - Class A (very good) and Class B (good).

In 2006, the last year for which Environment Agency data exists, 91.5 % of the monitored stretches of rivers met Class A and B, the best results for the whole of England. Devon and Cornwall were ranked first and third best counties in England for good river water quality respectively.

None of the monitored stretches in Devon and Cornwall were reported as bad quality and only 1.1% were classified Class E (poor). This equates to only 34km (21 miles) of the 3,091km (1921 miles) monitored by the Environment Agency.

Pollution Incidents

South West Water has one of the best pollution records in the country with none of the serious Category 1 events recorded in the last ten years. The introduction of telemetry to many of our CSOs is a vital tool in ensuring that this remains the case. In addition to this, we currently have ultraviolet disinfection at 54 of our sewage treatment works to protect both shellfish and bathing waters.

We have reduced the number of pollution incidents by more than 20% following the implementation of an action plan with the Environment Agency in 2003 and have had no category one pollution incidents, which have the biggest environmental impact, since records began.

Urban Drainage and Misconnections

South West Water's approach for addressing capacity issues in the sewerage network is based on looking at the wider environmental issue of climate change and the need to reduce carbon emissions.

As such, we favour separating surface water drainage from the traditional combined sewerage network as opposed to installing extra storage and pumping which is more energy intensive.

We are working with the Environment Agency, Local Authorities and Highways Authorities to investigate where joint solutions can be implemented in our region.

Following recent investigations by the Environment Agency and South West Water, misconnected pipes have been found as a common cause of pollution to rivers and streams. These can be misconnections to surface water drainage that discharge directly to bathing water.

As a result of this South West Water is funding work on the public sewerage system and the Environment Agency will investigate and seek to remediate urban diffuse pollution.