

Annual environmental performance report for Hafren Dyfrdwy 2021

Prepared by the Water, Land, Biodiversity & Marine Regulatory Approaches team

Introduction

Natural Resources Wales' purpose is to pursue the sustainable management of natural resources in all our work. This means looking after the air, land, water, wildlife, plants and soil to improve Wales' well-being, and provide a better future for everyone.

We monitor the activities of water companies to minimise the impact their assets and activities have on the environment. We do this by checking their environmental performance throughout the year in areas such as reducing pollution incidents, complying with permits and delivering environmental improvement schemes. We then publish an annual assessment of their performance.

Hafren Dyfrdwy¹ came into existence on 1 July 2018, forming a water and sewerage company that is wholly within Wales' political boundary. All² assets that were previously owned and managed by Severn Trent Water and Dee Valley Water in Wales were transferred to Hafren Dyfrdwy. To maintain reporting frequency and to aid year-on-year comparisons, this report uses a combination of Hafren Dyfrdwy data and the corresponding Severn Trent Water and Dee Valley Water data from the operating area Hafren Dyfrdwy are now responsible for. See Annex 1 for more information on this.

This report focuses on Hafren Dyfrdwy's environmental performance for 2021. We also assess Dŵr Cymru Welsh Water's performance which you can find on our [website](#).

The Environment Performance Assessment (EPA) metrics used for the 10 largest water and sewerage companies in England and Wales are not applicable to Hafren Dyfrdwy. However, we use similar themes, for example pollution incidents and permit compliance.

¹ Companies House information: HAFREN DYFRDWY CYFYNGEDIG, Company number 0352762, registered office address: Packsaddle Wrexham Road, Rhostyllen, Wrexham, Clwyd, LL14 4EH.

² The only exception is Elan Valley water treatment works which, although located in Wales, will continue to be owned and managed by Severn Trent Water. NRW will regulate this site and provide environmental performance data to the Environment Agency, so that it can be included in Severn Trent Water reporting.

Headline performance messages

In 2021 Hafren Dyfrdwy had:

- continued good performance on serious pollution incidents with zero serious pollution incidents;
- improved performance for sewerage pollution incidents, which was equal to their performance in 2019 (two incidents);
- a Supply Demand Balance Index score of 100;
- 100% for delivery of their AMP7 NEP schemes.

But improvement is needed in these areas:

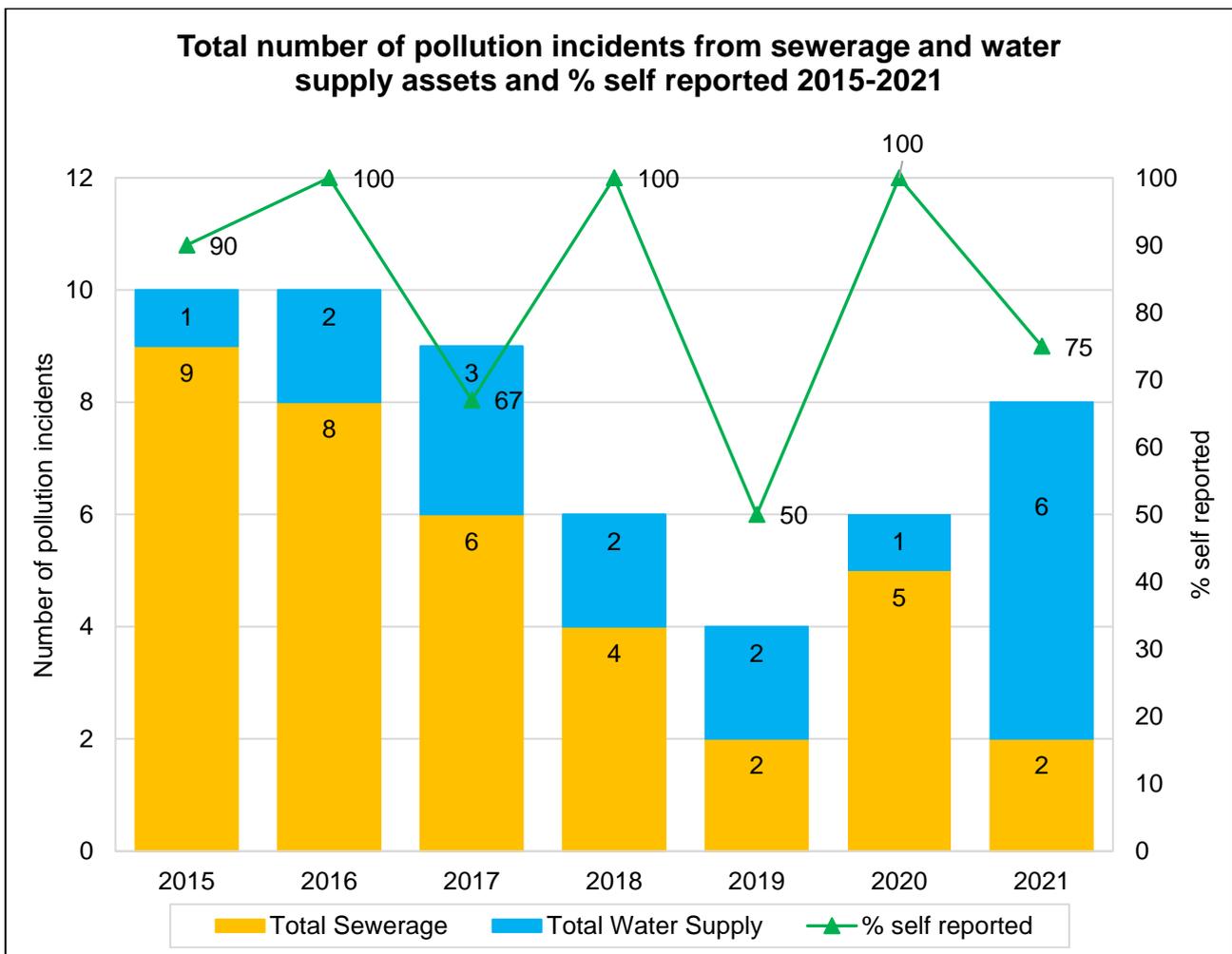
- total number of pollution incidents, as they increased in 2021 with eight pollution incidents in total (two sewerage and six water supply);
- performance on self-reporting, with only 75% of incidents self-reported;
- 97.9% compliance with numeric water discharge permit conditions;
- compliance with descriptive water discharge permit conditions, which deteriorated in 2021.

Pollution incidents

As a regulator we respond to a wide variety of pollution incidents, some of which are from water company assets and networks. We report on how many incidents each water company is responsible for. This is to drive continued reduction in the number of pollution incidents, aiming to reduce incidents to zero. We expect no serious (High) incidents.

As shown in the graph below, Hafren Dyfrdwy had varied performance in 2021 for pollution incidents. The company:

- maintained zero serious (High) pollution incidents;
- had a reduced number of sewerage incidents – two in 2021, compared to five in 2020. In 2021, the two incidents were from sewage treatment works (STWs). They all had a low environmental impact (Category 3); but,
- had an increased number of incidents from water supply assets – six in 2021, compared to one in 2020. In 2021, the six incidents were from the water distribution network. They all had a low environmental impact (Category 3).



Self-reporting incidents

We would like to see all water companies self-report³ at least 80% of their pollution incidents. This means we can be more confident that the water company:

- understands their assets and networks better;
- continually looks for ways to improve how they predict pollution incidents, including using their own telemetry data to improve levels of self-reporting;
- use their data to identify hot spots and target high risk locations and specific asset types;
- attends and reacts to incidents quickly to stop any impact as soon as possible.

It is disappointing to see Hafren Dyfrdwy's self-reporting performance has dropped to 75% (six out of eight incidents self-reported) after achieving 100% in 2020. We expect Hafren Dyfrdwy to improve self-reporting of incidents in 2022. We encourage Hafren Dyfrdwy to consider other initiatives used across the industry to improve and stabilise their performance in this area.

Water discharge permit compliance

We issue permits for water discharges, including treated discharges from water company STWs and water treatment works (WTWs). The permits require the discharge to meet specific criteria to make sure there is no deterioration to the water environment. Water companies self-monitor their discharges and provide data to us, which we assess for compliance. We expect all permit conditions to be complied with.

Hafren Dyfrdwy operate 39 numeric STWs (which have a total of 43 discharges) and five numeric WTWs (four of which have a total daily flow of over 20m³/day).

In 2021, one discharge from a STW failed its numeric permitted limits. Therefore, we report Hafren Dyfrdwy's numeric discharge permit compliance as 97.9% for 2021 (1 out of 47).

This is disappointing as they have achieved 100% numeric compliance since 2017. We expect to see improvement in this area and a return to 100% compliance in 2022.

Water quality descriptive permit condition compliance

Descriptive conditions relate to non-numeric aspects such as maintenance, management and reporting.

Overall, descriptive condition compliance at STWs and WTWs with numeric and descriptive permits in 2021 was 91.8%. After an improvement in 2020, it is disappointing to see a deterioration in the performance of compliance against descriptive permit conditions.

³ To report an incident to us, call our Incident Hotline on 03000 65 3000

	Descriptive condition compliance	Number of non-compliant discharges
2019	93.3%	4
2020	96.7%	2
2021	91.8%	5

The five non-compliant discharges in 2021 had a total of three category 4⁴, two category 3 and one category 2 non-compliances recorded against them, with a range of enforcement action taken including Warnings and advice and guidance.

We expect Hafren Dyfrdwy to aim for 100% compliance in this area and to maintain a consistently high level of performance.

Storm overflow permit compliance assessment

We also found two permitted combined sewer overflows to be non-compliant with their permit conditions due to blockages. We identified three permit non-compliances at the two storm overflows.

Flow compliance at sewage treatment works

Hafren Dyfrdwy provided Dry Weather Flow (DWF) data in accordance with their permit requirements. Three STWs were reported as exceeding their DWF permitted limits in 2021, resulting in the sites discharging more treated sewage than permitted. Hafren Dyfrdwy are required to carry out investigations and report the cause of exceedance to us, and where appropriate complete remedial action within an agreed timescale.

Four STWs were reported as having experienced data issues in 2021 which Hafren Dyfrdwy is working to resolve.

We are unaware of any sites in Wales being investigated by Hafren Dyfrdwy due to queries over their flow to full treatment (FFT) permitted limits. Hafren Dyfrdwy continue to proactively investigate any sites they consider to be at risk of failing their FFT permitted limits, which means they may not be treating the amount of flow required by their permits.

Hafren Dyfrdwy has made progress with their internal management system for MCERTS certification, a system which independently audits and certifies the suitability and accuracy of their flow monitoring equipment. All their sites were compliant with MCERTS re-certification requirements in 2021.

In late 2021 the Environment Agency and Ofwat announced they would investigate potential non-compliances with FFT permit conditions from STWs in England. The

⁴ We use non-compliance categories to score permit or licence breaches. They are on a scale of 1-4:

- Category 1 – Major: potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property;
- Category 2 – Significant: potential to have a significant impact or effect on the environment, people and/or property;
- Category 3 – Minor: potential to have a minor or minimal impact or effect on the environment, people and/or property;
- Category 4 – No impact: non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property.

investigations are analysing information submitted by water companies to regulators that highlight potential permit non-compliances.

In Wales, we do not plan to undertake a similar investigation at present, as we already have a compliance response in place. Hafren Dyfrdwy has been sharing similar information with us since 2014. This work identified sites that needed investigation by Hafren Dyfrdwy who then looked at the causes of non-compliance. We have worked with Hafren Dyfrdwy to ensure the sites return to compliance with their permit at the earliest opportunity.

We will continue to liaise with Ofwat to understand the outcomes of their investigation in England. We will review our current regulatory approach in Wales, if necessary.

Permitted storm overflows

Hafren Dyfrdwy have installed event duration monitors (EDM) to monitor the number and duration of spills, on all their permitted storm overflows. This means EDM will be installed on the following assets:

- storm overflows on the sewer network (combined sewer overflows);
- storm overflows from pumping stations;
- storm overflows at STWs.

More information on storm overflows can be found on our [website](#).

Better River Water Quality Taskforce

On 5 July 2022 the Better River Water Quality Taskforce published action plans alongside its storm overflow roadmap on our [website](#). These set out objectives and measurable outcomes for delivering improvements to the management and environmental regulation of overflows in Wales. We are a partner on this taskforce alongside Welsh Government, Ofwat, Dŵr Cymru and Hafren Dyfrdwy, which is independently advised by Afonydd Cymru and Consumer Council for Water.

As the action plans in the roadmap set out, we are developing our regulatory framework to ensure water companies address the environmental impact of spills from storm overflows.

EDM data we are reporting

For the purposes of this report, we have used the 2020 EDM summary data. This data is from the annual regulatory return submitted by Hafren Dyfrdwy.

We will be completing checks on the 2021 EDM data so it can be included in subsequent reports, aligned to the work in the Better River Water Quality Taskforce.

2020 Event Duration Monitoring regulatory return

Hafren Dyfrdwy had a total of 36 permits (for 44 discharges) with EDM conditions in force in 2020. We have continued to issue variations on storm overflow permits, with more issued since.

We have carried out data quality checks on the 44 permitted storm overflows Hafren Dyfrdwy submitted 2020 EDM summary data for. We used this data to produce the graphs and percentages below.

We recognise that in 2020, Wales experienced its fifth wettest year since 1865, with 10 named storms impacting the UK. February 2020 was a particularly wet month with three named storms which resulted in the wettest month for Wales since 1865. However, until we have completed our work developing a robust way to identify when spills are occurring in dry weather, we cannot yet make any inferences on any trends or patterns in this report.

Number of spills

The 2020 EDM data for Hafren Dyfrdwy's 44 permitted storm overflows, on the number of spills (using the block counting methodology⁵), tells us:

- 9% (4) had 0 spills;
- 18% (8) spilled between 1 and 9 times;
- 45% (20) spilled between 10 and 39 times;
- 25% (11) spilled between 40 and 99 times;
- 2% (1) spilled between 100 and 300 times.

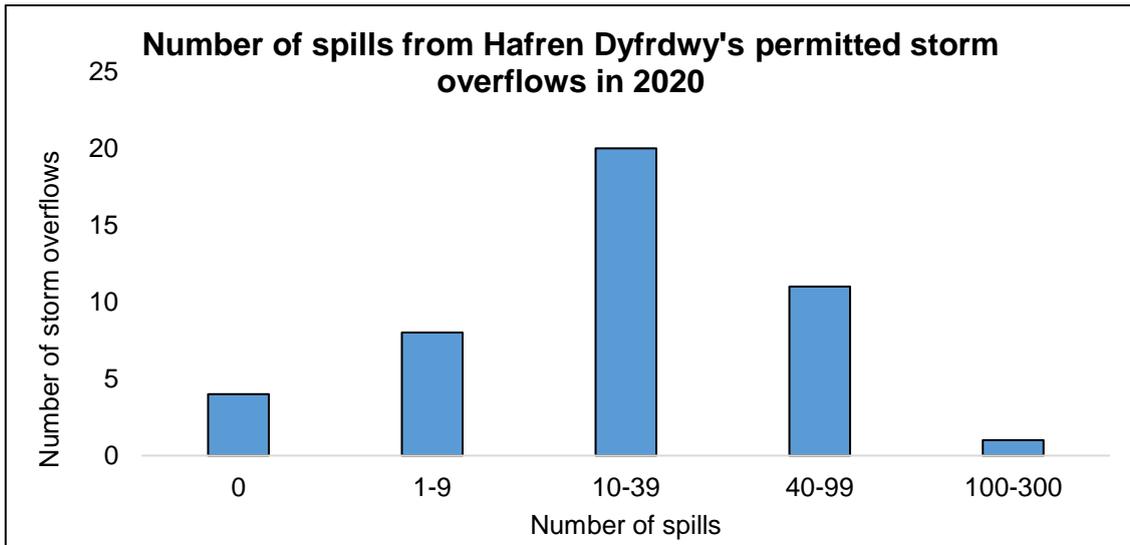
The graph below displays this data.

⁵ The block counting methodology used to count spills from storm overflows is 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.

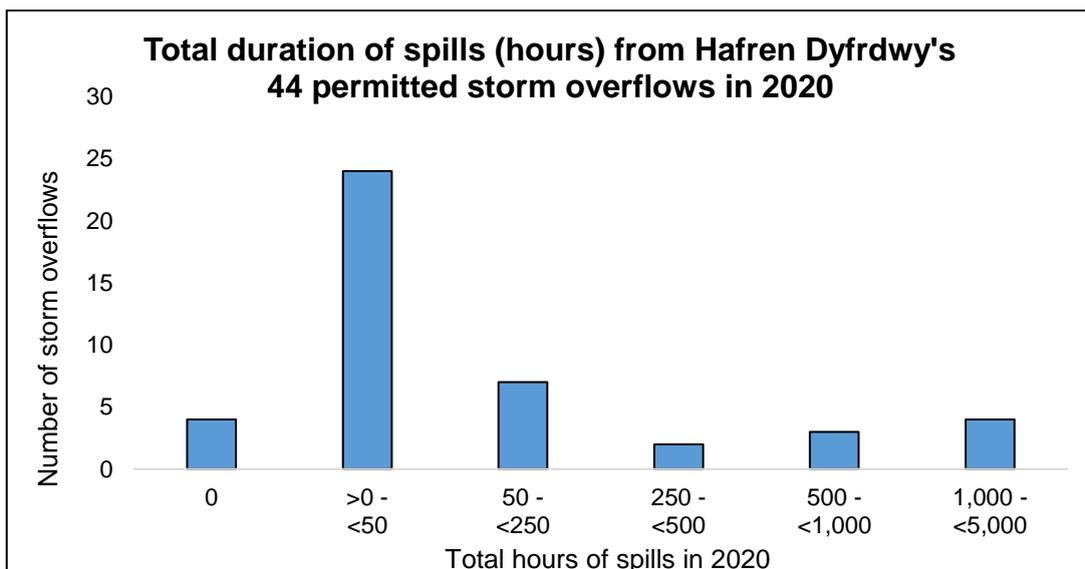
NRW and the Environment Agency use this same approach for consistency across water companies.



Duration of spills

The 2020 EDM data, for Hafren Dyfrdwy's 44 permitted storm overflows, on the duration of spills, tells us:

- 9% (4) had 0 hours of spills;
- 55% (24) spilled for more than 0 but less than 50 hours;
- 16% (7) spilled for at least 50 hours but less than 250 hours;
- 5% (2) spilled for at least 250 hours but less than 500 hours;
- 7% (3) spilled for at least 500 or hours but less than 1,000 hours;
- 9% (4) spilled for at least 1,000 or hours but less than 5,000 hours.



Future reporting

We are continuing to develop our regulatory approach in how we verify, assess and use the EDM data the water companies submit to us. This includes developing a robust way of identifying storm overflows which are spilling in dry weather.

We will continue to develop how we monitor and report performance on storm overflows in line with our actions detailed in the storm overflow action plans, working closely with the Better River Water Quality Taskforce.

We are also progressing work to enable us to share EDM summary data from the regulatory return on our public register.

Water resources

Water resources licence compliance

We did not carry out any water resources licence compliance assessments in 2021. However, we expect to see an improvement in compliance for 2022, compared to 2020's compliance (five permit condition non-compliances at four sites).

Drought planning & Water Resources Management Plans

Water companies have a duty to maintain water supplies in their area, without damaging the environment or affecting the needs of other water users. There is a statutory requirement for water companies in Wales to prepare, maintain and publish Water Resources Management Plans (WRMPs) and Drought Plans. These are published every five years.

For the latest information on Hafren Dyfrdwy's WRMP and Drought Plan, please see their website:

- Water Resources Management Plan: www.hdcymru.co.uk/about-us/plan-and-strategy/water-resource-planning/water-resource-management-plan
- Drought Plan: <https://www.hdcymru.co.uk/content/dam/hdcymru/about-us/drought-plan/Hafren%20Dyfrdwy%20Drought%20Plan%202020%20-%202025.pdf>

Please also have a look at our webpages for more information on these topics:

- Water Resources Planning: <https://naturalresources.wales/about-us/what-we-do/water/water-resource-management-planning/?lang=en>
- Drought: <https://naturalresources.wales/guidance-and-advice/environmental-topics/water-management-and-quality/drought-planning-and-management/?lang=en>

Supply Demand Balance Index

The Supply Demand Balance index (SDBI) metric measures how the actual supply demand balance has performed compared to what is set out in a water company's WRMP. We expect companies to have a score of 100. Hafren Dyfrdwy's SDBI index score for 2021 is 100.

Leakage and water use

Water companies submit a wide variety of data to us and Ofwat, which includes leakage rates and water use. Hafren Dyfrdwy's leakage rates and water use information for 2021/22 will soon be available at discoverwater.co.uk.

Other regulatory work

AMP National Environment Programme delivery

Hafren Dyfrdwy have completed 100% of their expected Year 2 outputs from their Asset Management Plan 7 (AMP7) National Environment Programme (NEP) by completing two schemes as planned. The improvements delivered by the programme will mean assets achieve higher standards and deliver improvements. We will continue to work with Hafren Dyfrdwy to ensure their AMP7 programme is delivered by 2025.

Enforcement (higher than a Warning)

In 2021 we took no enforcement action higher than a Warning against Hafren Dyfrdwy.

Waste permit compliance

Water companies operate a variety of waste activities ranging from biowaste treatment, landfill, biogas combustion, sludge incineration and transfer stations. For permitted activities we assess compliance against permit conditions and score any non-compliances. We did not carry out any compliance assessments in 2021.

In 2021, there were no pollution incidents from waste activities Hafren Dyfrdwy operate.

Sludge

There are no sludge disposal activities within Hafren Dyfrdwy's operating area.

Reservoir Safety

At the end of 2021, Hafren Dyfrdwy were managing 15 large, raised reservoirs with a raised capacity greater than 10,000m³, which we regulate under the Reservoirs Act 1975. This act ensures fundamental actions are implemented to prevent an uncontrolled release of water and subsequent flooding of downstream communities. The actions include the

appointment of specialist reservoir panel engineers and acting promptly on their recommendations.

Reservoirs which are designated as a High-Risk Reservoir must undergo statutory periodic inspection and implement the recommendations made by an independent Inspecting Engineer. These reservoirs must also always be supervised by a qualified civil engineer and records kept of principal information and monitoring activities.

Hafren Dyfrdwy's compliance against the key safety indicators remained high throughout the year with no breaches being recorded.

Flood Risk Management

Under the Flood and Water Management Act 2010, water and sewerage companies are defined as risk management authorities. They are required to act in a manner consistent with the National Strategy for Flood and Coastal Erosion Risk Management in Wales and have a duty to cooperate with other risk management authorities in Wales.

Every few years we produce a report for the Welsh Ministers about how flood risk and coastal erosion is managed across Wales and about the activities underway to raise awareness and increase resilience of those who are at risk. We do this on behalf of all Risk Management Authorities who operate in Wales and therefore include Hafren Dyfrdwy. The next report is due in October 2022 (2 years from the publication of the Welsh Government National Strategy for Flood and Coastal Erosion Risk Management in Wales) and every 2 years thereafter. Please see our [Flood and coastal erosion risk in Wales](#) webpage for more information.

Performance expectations for 2022

In 2022 we expect Hafren Dyfrdwy to:

- continue good performance on serious pollution incidents with zero serious pollution incidents;
- maintain the SDBI score of 100;
- continue to deliver AMP improvement schemes to deadline.

And focus in the following areas to improve performance:

- reduce pollution incident numbers, aiming for zero incidents;
- aim to achieve 100% self-reporting of pollution incidents;
- return to 100% compliance with water discharge numeric limits;
- aim to achieve 100% descriptive condition compliance at STWs and WTWs;
- reduce the impact of storm overflows by delivering their actions in the storm overflow roadmap action plans.

Annex

Hafren Dyfrdwy was formed on 1 July 2018 but we use data in this report back to 2015.

For incident and self-reporting data, water discharge permit compliance data and water resources licence compliance data detailed in the text and graph in this report, we have used the following data sources:

- for **2015, 2016** and **2017**: we combined data from Severn Trent in Wales and Dee Valley Water
- for **2018** we combined two periods (pre-formation of Hafren Dyfrdwy on 1 July 2018 and post formation):
 - from 1 January 2018 to 30 June 2018: we combined data from Severn Trent in Wales and Dee Valley Water;
 - from 1 July 2018 to 31 December 2018: we combined data from Severn Trent Water in Wales, Dee Valley Water (as some permit variations were completed post 1 July) and Hafren Dyfrdwy;
- from **2019** onwards we only used data from Hafren Dyfrdwy.