

Annual environmental performance report for Hafren Dyfrdwy 2022

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

Introduction

Our 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 licences and delivering environmental improvement schemes.

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 2022. 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 2022 Hafren Dyfrdwy:

- had continued good performance on serious pollution incidents with zero serious pollution incidents in 2022;
- reduced the total number of pollution incidents, from eight in 2021 to four (two sewerage and two water supply);
- maintained a Supply Demand Balance Index score of 100;
- improved compliance with descriptive water discharge permit conditions;
- maintained 100% for delivery of their AMP7 NEP schemes.

But the company need to improve in these areas:

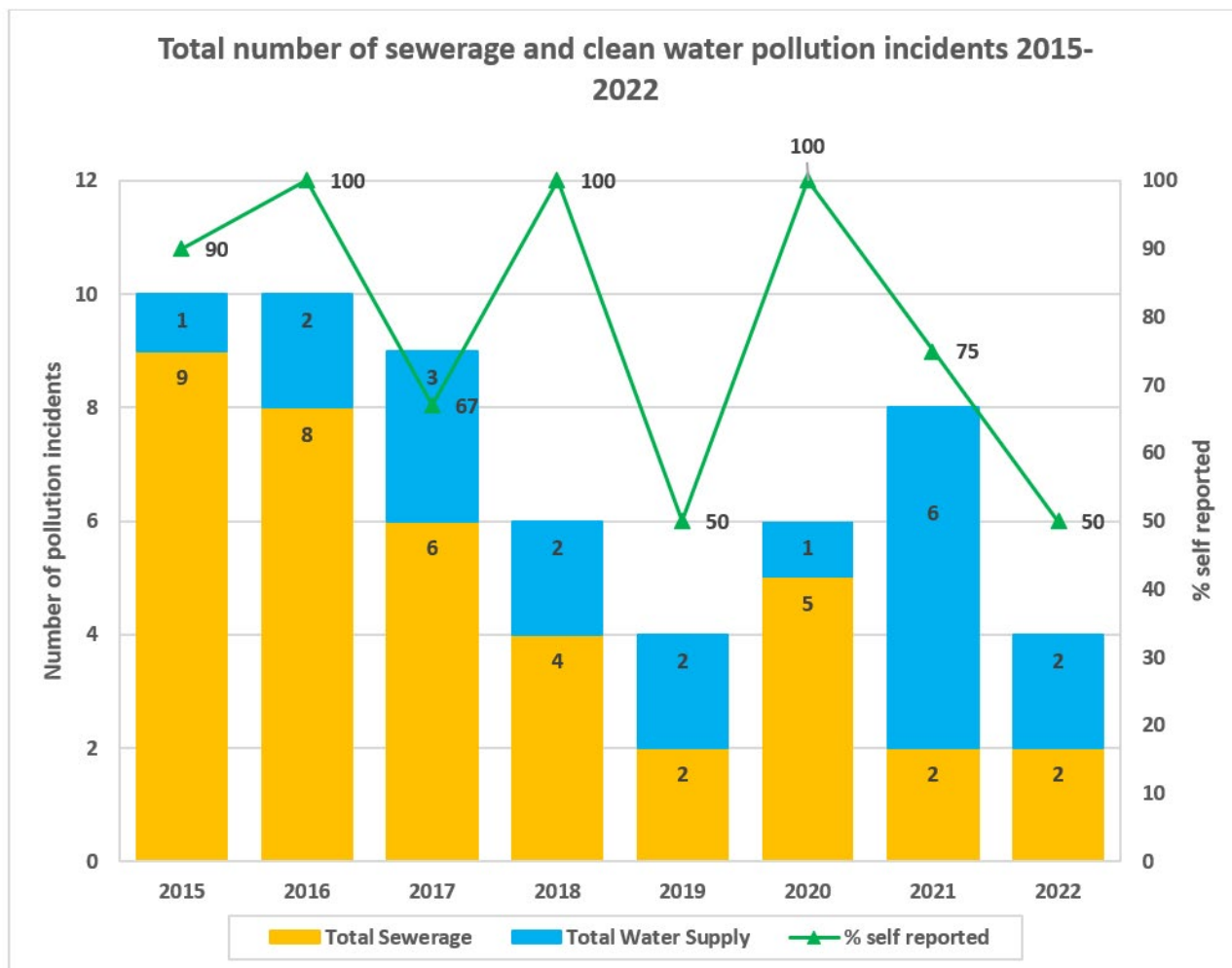
- their levels of self-reporting incidents as they only self-reporting 50% of incidents in 2022 (2 out of 4);
- compliance with numeric water discharge permit conditions as they had 97.8% compliance in 2022;
- Dry Weather Flow compliance as three sites exceeded their limits.

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 improved their pollution incident performance in 2022. The company:

- maintained zero serious (High) pollution incidents;
- maintained sewerage incidents – two in 2022, and two in 2021. One incident this year was from a sewage treatment works (STW) and the other was from a Combined Sewer Overflow (CSO). Both had low environmental impact (Category 3);
- reduced incidents from water supply assets for 2022 to two (compared to six in 2021). Both incidents were from the water distribution network and 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 50% (two out of four incidents self-reported) after achieving 75% in 2021 and 100% in 2020. We expect Hafren Dyfrdwy to improve self-reporting of incidents in 2023 and encourage them to consider other initiatives used across the industry to improve and then stabilise their performance in this area.

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

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 (three of which have a total daily flow of over 20m³/day, meaning they are large enough to be counted against the EPA metric which larger water companies would be regulated by). In 2022, one discharge from a STW failed its numeric permitted limits. Therefore, we report Hafren Dyfrdwy's numeric discharge permit compliance as 97.8% for 2022 (1 out of 46).

This is disappointing as they have achieved 100% numeric compliance 2017-2021. We expect to see improvement in this area and a return to 100% compliance in 2023.

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 2022 was 98.2%. This is an improvement on 2021 performance against descriptive permit conditions.

	Descriptive condition compliance	Number of non-compliant discharges
2020	96.7%	2
2021	91.8%	5
2022	98.2%	1

The non-compliant discharge in 2022 was a Category 3 non-compliance which resulted in a Warning. Descriptive condition compliance is only reported against STWs and WTWs.

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 11 permitted combined sewer overflows and one pumping station to be non-compliant with their permit conditions. One of the CSOs was non-compliant due to discharging in non-storm conditions due to a blockage and had a category 3⁴ non-compliance recorded, with a Warning issued.

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



The remainder were non-compliant due to failing to supply information required by the improvement conditions in their permits by the date specified. All were recorded with a category 4 non-compliance⁵.

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. The company are required to carry out investigations and report the cause of exceedance to us, and where appropriate complete remedial action within an agreed timescale.

One STW was 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 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.

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- ⁵Category 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.

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.

In this section, we share data on permitted storm overflows only. For storm overflows currently operating without a permit, we have a significant programme of work underway to bring them within our regulatory framework, where appropriate.

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

In 2022 Wales experienced an exceptionally wet February (the second wettest February in over 100 years), followed by a prolonged dry spring and a drought declared for much of summer and early autumn. March – August (combined) saw 57% of the expected rainfall for the same six-month equivalent period. Putting this into context, this six-month period was third driest on record in over 100 years. The late autumn and winter months were then characterised by normal or above normal rainfall. The year as a whole saw 86% of the annual average expected rainfall.

Unusually wet periods have the potential to result in increased spill frequency and duration, whilst dry weather has the opposite effect. We are working on a robust method to identify when spills are occurring in dry weather that will allow us to better assess storm overflow performance.

EDM data we are reporting

In this report, we have used the 2022 EDM summary data submitted by the water company in their annual regulatory return.

To improve transparency, for 2022 data onwards we asked water companies to provide more information in their EDM data submissions. For example, we now require the type of asset to be specified; this could be a storm overflow on the sewer network, at a wastewater treatment works or at a pumping station.

We are planning to provide more detail on EDM data aligned to the work in the Better River Water Quality Taskforce.

Hafren Dyfrdwy listed 39 permits with 49 storm overflow discharges in their 2022 return. The majority of permits already had EDM permit conditions in force; two permits have EDM permit variations outstanding.

We used the data as received from the water company to produce the graphs and percentages below. We will continue work to improve the data completeness and accuracy for the storm overflow data sets.

Data completeness

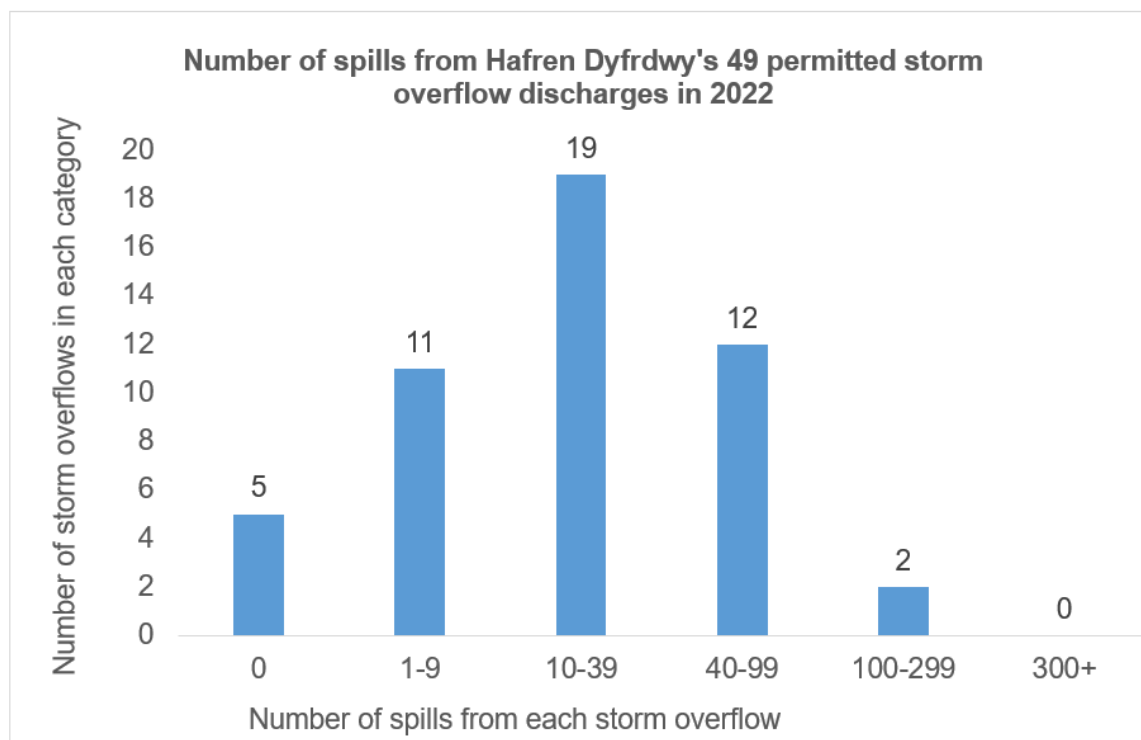
In 2022, 13 (27%) of the water company’s EDMs were in operation for less than 90% of the year, which is below the agreed industry standard. We expect the water company to improve EDM operability so that all EDMs are operating for at least 90% of the time as soon as possible.

Number of spills

The 2022 EDM data for Hafren Dyfrdwy’s 49 permitted storm overflows, on the number of spills (using the block counting methodology⁶), tells us:

- 10% (5) had 0 spills;
- 22% (11) spilled between 1 and 9 times;
- 39% (19) spilled between 10 and 39 times;
- 24% (12) spilled between 40 and 99 times;
- 4% (2) spilled between 100 and 300 times;
- 0 spilled over 300 times.

The graph below displays this data.



⁶ 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.

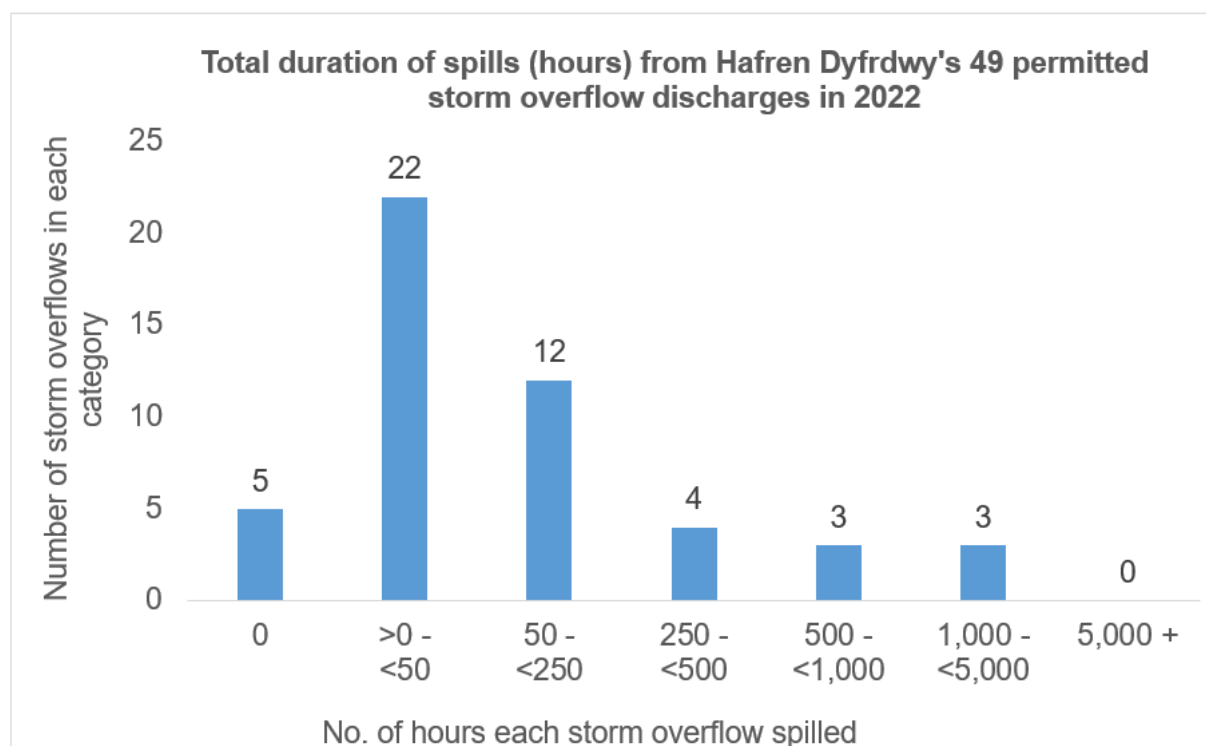
NRW and the Environment Agency use this same approach for consistency across water companies.

Duration of spills

The 2022 EDM data, for Hafren Dyfrdwy's 49 permitted storm overflows, on the duration of spills, tells us:

- 10% (5) had 0 hours of spills;
- 45% (22) spilled for more than 0 but less than 50 hours;
- 12% (24) spilled for at least 50 hours but less than 250 hours;
- 8% (4) spilled for at least 250 hours but less than 500 hours;
- 6% (3) spilled for at least 500 or hours but less than 1,000 hours;
- 6% (3) spilled for at least 1,000 or hours but less than 5,000 hours;
- 0 spilled for over 5,000 hours.

The graph below displays this data.



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.

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 failing to comply with their permit conditions.

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

In 2022 we carried out one compliance assessment of a Hafren Dyfrdwy water resources licence; it was assessed as compliant with no breaches of licence identified.

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 to prepare, maintain and publish Water Resources Management Plans (WRMPs) and Drought Plans. The latest draft WRMP was published and consulted on in 2022 and expected to be finalised in Autumn 2023. The latest Drought Plan was published in March 2021. The plans 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 2024](#) (draft)
- [Drought Plan 2020-2025](#)

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

- [Water Resources Planning](#)
- [Drought](#)
- [Drought plan guidance](#)

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 2022 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. The revised leakage rates and water use information for 2022/23 should soon be available at www.discoverwater.co.uk.

Drought experience in 2022

During 2022, drought was declared across all parts of Wales. In terms of public water supply, Hafren Dyfrdwy declared developing drought for a couple of weeks (although the company didn't reach drought) in one of its water resource zones and they were calling for people to save water, enhancing leakage control and undertaking operational measures to help manage water supplies.

The company has assessed lessons to learn from the 2022 event, leading to some recommendations to improve drought preparation, management and response. The 2022 drought experience has been accounted for in their latest WRMP and any wider changes to water company planning, such as guidance, is being considered by ourselves, the Welsh Government and the Wales Drought Liaison Group.

Other regulatory work

AMP National Environment Programme delivery

Hafren Dyfrdwy completed all of their expected Year 3 outputs from their Asset Management Plan 7 (AMP7) National Environment Programme (NEP) by completing one scheme 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 the rest of their AMP7 programme is delivered by 2025.

Enforcement (higher than a Warning)

In 2022 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 2022. We target compliance based on operator performance and risk.

In 2022, there were no pollution incidents from waste activities Hafren Dyfrdwy operate.

Sludge

Hafren Dyfrdwy produce sludge in Wales. However, there are no sludge use activities that Hafren Dyfrdwy are responsible for so their sludge use is reported through Dwr Cymru's performance report. Therefore there is no performance requirement for sludge use/disposal for Hafren Dyfrdwy.

Reservoir Safety

Hafren Dyfrdwy manages 15 large, raised reservoirs in Wales, 13 of which are designated as high-risk which is a legal definition. High-risk reservoirs are large, raised reservoirs which we designate as high-risk because we think human life could be endangered in the event the dam fails, causing an uncontrolled release of water. More information can be found on our [Risk Designation webpage](#).

We recorded full compliance with the construction, compliance and safety indicators throughout 2022; the number of non-compliances recorded for each indicator was zero, and the compliance per reservoir as a percentage of all Hafren Dyfrdwy's registered reservoirs was 100%. We are informed that Hafren Dyfrdwy has a corporate commitment to its Board for maintaining this level of compliance which we welcome.

We consider the performance of Hafren Dyfrdwy to be exemplary in meeting these requirements.

Since 2016, an amended Reservoirs Act and new regulations mean that more reservoirs have come into regulation and are being designated by us. Hafren Dyfrdwy (and Severn Trent) maintains a significant portfolio which includes reservoirs over 100 years old. We expect reservoir engineers to assess and apply modern standards to the older structures which inevitably results in additional, mandatory work and places additional burdens on the water companies to maintain them.

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 (FCERM) in Wales and the National Flood and Coastal Erosion Risk Management Strategy for England. They have a duty to cooperate with other risk management authorities in England and Wales.

Every few years we produce a report for the Welsh Ministers about how the National FCERM Strategy is being implemented across Wales and we include examples of best practice through a range of case studies that may include water and sewage company initiatives. 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 2023 (3 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 2023

In 2023 we expect Hafren Dyfrdwy to:

- continue good performance on serious pollution incidents with zero serious pollution incidents;
- maintain an 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;
- 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.