SCOTTISH WATER

Water Industry Commission for Scotland (WICS) ANNUAL RETURN 2023/24

Section B – Outputs to Customers

Contents

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1 Table B1: Restrictions on water use

1.1.1 Overview

Prior to AR22, the B1 table only reported on % of population affected by hosepipe bans. For the AR22 submission, this was amended to cover the use of Water Shortage Orders (WSOs) rather than Hosepipe Bans, reflecting the current legislation. AR22 was the first year that Scottish Water reported on WSOs as part of the AR submission. Additional reporting **Lines B1.6 to B1.8** were also added in AR22 to report the number of red drought impacts trigger breaches (**Line B1.6**) as well as the number of supply systems monitored/not monitored against drought trigger levels (**Lines B1.7 and B1.8**).

AR24 Headlines:

- 0 WSO's (same as AR23)
- 0 Emergency WSO's (same as AR23)
- 1 zone (Broadford) entering Red Trigger (compared with 2 red triggers in AR23)

1.2 Performance Trends

B1.1: Total of zonal populations

The "Total of zonal populations" is calculated as outlined in Table 1 below. Please note that two of these numbers are also reported in the A2 table. The reported number is 5,350,000 (rounded from 5,350,503). This does not include the transient tourist population.

The population reported in **Line B1.1** also includes "Population not in households" (an extra 121,005). This is consistent with the total of zonal populations used in the calculation of Security of Supply Index (SoSI) reported in B9.

Table 1: Total of zonal populations.

Line description and number	Value
Unmeasured household population (line A2.3)	5,228,794 [2]
Measured household population (line A2.4)	704 [1]
Population not in households – Water	121,005
Total	5,350,503

[1] reported as 0.704 in **Line A2.3** due to 000's units.
[2] reported as 5,228.794 in **Line A2.3** due to 000's units

The term “Population not in households” describes the estimates of population generally assumed to be currently in institutions e.g., prison or hospitals. Meanwhile, in the A Table commentary, the term ‘Population not in households’ is taken to be the difference between NRS total population and NRS private household population. The ratio of dwellings with water to total dwellings is then applied to calculate the “Population not in households with water.”

AR24 total population has increased by 11,045 (a 0.21% change) compared to AR23 total reported population of 5,339,457 – an overwhelming majority of the change (10,364) occurring in the “Unmeasured household population” category.

B1.2: Population affected by ordinary water shortage orders

The definition and requirements for an ordinary Water Shortage Order (WSO) are detailed in Part 7 of the Water Resources (Scotland) Act 2013. A WSO is typically likely to entail hosepipe bans or non-essential use bans.

This measure is the sum of the population impacted by WSO in the reporting year. This number is derived from the number of people affected by a WSO; the total for the year being the sum of each discrete WSO. This includes where a WSO may have to be imposed more than once in a WRZ in the year.

Zero ordinary WSOs were imposed in AR24 (same as AR23). Consequently, the confidence grade of AX has been applied (as per AR24 guidance – “The X grade is generally only likely to be appropriate where a zero has been entered”).

B1.3: % Population affected by ordinary water shortage orders

This measure is a calculated line and is the result of **Line B1.2**, the number of people that were subject to WSOs in the year, divided by **Line B1.1**, the total household population reported. The percentage population affected by WSOs this year is zero%.

As there were zero WSOs imposed in AR24, the confidence grade of AX has been applied.

B1.4: Population affected by emergency water shortage orders

The definition and requirements for an emergency Water Shortage Order (eWSO) are detailed in Part 7 of the Water Resources (Scotland) Act 2013. An eWSO may be similar to an ordinary WSO but would be implemented more quickly. An eWSO could also be used to implement more significant supply restrictions such as rota cuts and standpipes.

This measure is the sum of the population impacted by an eWSO in the reporting year. This number is derived from the number of people affected by an eWSO; the total for the year being the sum of each discrete order, including where eWSOs may have to be imposed more than once in a WRZ in the year.

Zero eWSOs were imposed in AR24 (same as AR23), consequently a confidence grade of AX has been applied.

B1.5: % Population affected by emergency water shortage orders

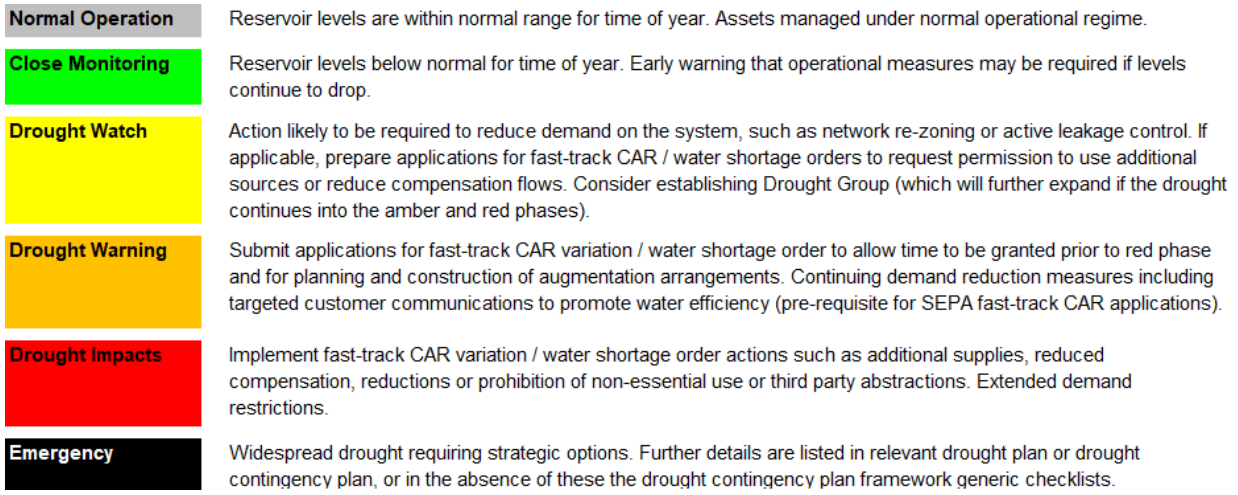
This measure is a calculated line and is the result of **Line B1.4**, the number of people that were subject to eWSOs in the year, divided by **Line B1.1** the total reported household population reported. This is the first year this line has been reported therefore no comparison with previous years can be made.

As there were zero eWSOs imposed in AR24, the confidence grade of AX has been applied.

B1.6: Monitored reservoir sources breaching the drought impacts (red) trigger

The drought impacts trigger levels for any given water supply system are set out in a Drought Plan document. Each supply system will have a different level of drought risk as well as different potential drought plan options which may be required. However, an overview of the different drought impacts trigger levels is provided below in Figure 1.

Figure 1: Drought impacts trigger levels.



One supply zone entered the red drought impacts trigger level during AR24, detailed in Table 2 below.

Table 2: Zones in red drought impacts trigger level

System	Duration in Red trigger	Population
Broadford *	2 weeks	1,602

*** Broadford WTW and Broadford Mid-Skye WTW supply Broadford WRZ. Population based on the sum of equivalent WOA-level for each WTW system listed, hence representing the entire Broadford WRZ**

The Broadford water supply zone is not normally reported on as part of the weekly Water Update Report. This is because the Water Update Report is focused on larger reservoir and loch storage systems, whereas the main supply for Broadford is from a river source with indirect augmentation via releases from two upstream lochs (Loch Lonachan and Loch Buidhe).

In June 2023, an emergency supply issue arose at Broadford due to a combination of very dry weather and operational asset failure issues. The main asset issues related to a major blockage of the raw water connecting pipe from the upper to lower section of Loch Lonachan, as well an unidentified over-release from the backup Loch Buidhe source meaning it was unavailable for supply when needed. These operational issues had a significant impact in worsening the drought impacts that would otherwise have been experienced.

As a result, emergency fast-track CAR permissions were required from SEPA to allow temporary syphoning from the upper section of Loch Lonachan and pumping from an additional loch source (Loch an Starsaich). Although these actions required emergency permission to be granted from SEPA, they did not require any kind of WSO. Despite the fact that Broadford was not normally included in the drought trigger reporting, the extent of the actions required and the potential risk to supply justified temporary inclusion and classification as being in the red drought trigger level.

Following on from the drought event impacts at Broadford in 2023, extensive investigation and improvement work has been progressed to minimise the risk of similar operational and monitoring

issues occurring again. This has included asset maintenance activities and the development of a revised operating plan. Improvements have also been made to the monitoring processes covering Broadford, including its formal addition to the Water Update Report as of June 2024.

In AR23 two zones were reported in the red drought impacts trigger level (Roberton and Glendevon). The difference between AR23 and AR24 is reflective of the different weather conditions experienced in summer 2023 compared to 2022. In 2023, the most significant dry weather event was experienced in the North-West of Scotland during May and June. The greatest impacts of this event were generally experienced in smaller more remote supply systems, the majority of which are not reported in the Water Update Report. In contrast, in 2022 the most significant dry weather was experienced in the larger supply systems in the South and East of Scotland (e.g., Borders, Fife, East Lothian).

Lines B1.7 and B1.8: Total number of supply systems

The reported numbers for these lines are based on a count of the number of water supply systems which are reported internally on a weekly basis in the Water Update Report. This report is used for the monitoring of water resource availability and the communication of potential or on-going drought risk. The reporting groups are determined mainly by the configuration and operation of the supply sources, which in turn determines how the drought trigger levels are modelled.

As a result, a supply system may be comprised of a single loch/reservoir source-feeding a single WTW; or, alternatively, may be based on the combined storage of multiple reservoirs (e.g., up to five reservoirs in the case of the Glendevon WTW system). These combined systems may feed a single WTW; or, in some cases, can be used conjunctively to supply multiple WTWs (e.g., Glasgow, Edinburgh and Dundee supply systems). The majority of supply systems (79 out of 85) monitored against drought trigger levels are loch/reservoir storage systems. However, there are also six river sites monitored which are also reported against river flow percentile trigger levels. Four of these river sites are large river abstraction locations and two are indicator sites for nearby groundwater sources where resource levels are influenced by surface water river levels.

B1.7: Total number of supply systems monitored against drought trigger levels

The total number of supply systems monitored in the AR24 reporting year is 85.

For AR23, the total number of supply systems monitored was 86. The reduction from 86 to 85 was due to the permanent closure of the Tolsta supply zone in May 2022 (permanently mained-out from North Lochs WRZ and raw water source no longer used for supply). The Water Update Report only reports on operational supply systems and therefore Tolsta was removed from the report as of Summer 2022.

Note that the reported total of 85 supply systems excludes the Broadford zone which was only partially reported on for AR24 when it was in drought trigger.

B1.8: Total number of supply systems not monitored against drought trigger levels

The total number of supply systems not monitored in the AR24 reporting year is 144. This number is based on the number of WTWs which are not included in the weekly water resource monitoring. The supply systems which are not directly reported on each week are mostly river or groundwater source systems where the standard reservoir storage and drought trigger reporting format is not directly applicable. Smaller loch and reservoir systems are also excluded where there is not sufficient monitoring or model availability to enable weekly reporting against drought trigger levels. These additional systems will still be covered by standard surveillance monitoring and checks by our operational staff. It is worth noting that the 144 supply systems not covered in the weekly monitoring report represent 5% of the total population supplied by Scottish Water.

For AR23, the total number of supply systems not monitored was 146. The reduction of two supply systems is due to a WTW closure (Fort Augustus) and data cleansing (Falkland WTW – borehole

source not used since 2006, previously considered Emergency but now re-classified as Abandoned).

1.3 Data

1.3.1 Data sources and confidence grades

Data sources and confidence grades are detailed in the Performance Trends section 1.2, where relevant.

Please note that confidence grades for **Lines B1.6-B1.8** were incorrectly reported in AR23, confidence grades for these lines are A1. The data is derived from a fully documented process and covered by ISO-9001 process and therefore an A1 grade is appropriate.

1.3.2 Data Improvement Programmes

There were no data improvement programmes during AR24.

1.3.3 Assumptions used for forecast data

It is not feasible to forecast AR25 data for **Lines B1.2 to B1.8**. The impact and extent of drought conditions and the subsequent need for water restrictions cannot be reliably forecast from year to year due to it being externally influenced by weather patterns. We do, however, monitor the situation closely throughout the year and have a range of planning and operational mitigation measures (e.g., drought plans) which are implemented to manage drought risk.

2 Table B2: Pressure and interruptions

2.1 Overview

Table B2 provides information on properties receiving low water pressure and interruptions to supply.

During AR24, customers from 7,498 properties contacted us due to experiencing low pressure. However, the majority of these were covered by the allowable exclusions such as abnormal demand or short-term operational incidents. The number of contacts decreased by 159 from the 7,657 reported in AR23. After removal of the exclusions, the number of properties below reference level decreased from 224 to 219 over the year (**Line B2.3**) This is due to a net reduction in the number of CS1 properties. Properties receiving low pressure are broken into 2 categories. CS1 properties should receive adequate pressure but persistently do not, so receive a Guaranteed Service Standard (GSS) payment. CS1A properties are within 10.5m head of an SR and do not receive a GSS payment as there is no obligation to provide adequate pressure to these properties. For the definition of reference level see WICS Annual Return Reporting Requirements, Section B - Chapter 2.

The number of properties experiencing interruptions to supply (ITS) increased across all durations in AR24 compared to that reported in AR23. In AR24 there were a number of major weather events which impacted ITS, (the highest property count affected by an Interruption to Supply was 8000 for 5.5 hours and the highest duration was 83 hours for 17 properties) with named storms from October through to March. The limited number of properties and duration of interruptions as a result of these storms to localised issues can be attributed to improved planning, response and recovery.

2.2 Performance Trends

2.2.1 Lines B2.1-B2.4 – Properties receiving pressure / flow below reference level

The number of properties that have received pressure below the reference level covered by the allowable exclusions is 7,498 (**Line B2.4**). This has been derived from the AR24 customer contacts data for pressure and intermittent supply. This represents a 2% decrease of 159 from AR23 reported figure of 7,657. It should be noted that not all customers experiencing low pressure will contact Scottish Water about pressure issues. The figures included in Lines **B2.1 to B2.**4 are summarised in Table 3 below.

During AR24, 3 properties were added to the excluded list (within 10.5m head of a SR) taking the total from 177 to 180 (**Line B2.3b**). These properties were added following new customer contacts. Three properties were added to the CS1 low pressure register list, which are properties eligible for GSS payments. These were added following new customer contacts. However, 11 properties were removed from the CS1 register following infrastructure improvements serving Swanston and Mains of Moyness. At the end of the year, 39 properties were on the CS1 list receiving GSS payments (**Line B2.3a**). This is within the target range of 25-40 properties.

Whilst projects to remove properties are planned for the year ahead, it is likely that further properties will be identified as not meeting the Low-Pressure Management Approach criteria. These will be added to the register following confirmation through logging.

Table 3: Summary of properties receiving pressure / flow below reference level for AR24.

Line Reference	AR24
Total connected properties (Line B2.1 – BF Line A.10)	2,809,285
Properties receiving low pressure but excluded from line B2.3 (Line B2.4)	7,498
Properties below reference level at start of year (Line B2.2)	224
Properties below reference level at end of year (Line B2.3)	219
Net increase/decrease	-5

2.2.2 Lines B2.5-B2.9 - Properties affected by planned interruptions

Details of planned interruptions are presented below in Table 4.

Table 4: Properties affected by planned interruptions in AR23 and AR24.

Line Ref		2022-2023	2023-2024	Variance	% change
B2.5	Less than 3 hours planned and warned	26421	24717	-1704	-6.45%
B2.6	More than 3 hours planned and warned	34241	36705	2464	7.20%
B2.7	More than 6 hours planned and warned	6229	10534	4305	69.11%
B2.8	More than 12 hours planned and warned	0	0	0	
B2.9	More than 24 hours planned and warned	0	0	0	

Planned interruptions lasting more than 3 hours in AR24 (**Line B2.6**) affected 36,705 properties, an increase of 2464 and 7.2% from AR23. This was largely driven by an increased capital presence on our network.

Planned interruptions lasting more than 6 hours in AR24 (**Line B2.7**) affected 10,534 properties, an increase of 4305 (69.1%) from AR23. This coincides with an increase in Rehab/Mains renewal work as the capital programme ramps up in the investment period. In AR24 Scottish Water spent a total of £93m on MA001 Recurring Customer Interruptions, this was an increase on AR23. Therefore, the 40.9% increase in planned interruptions is driven largely by the increased investment in mitigating and addressing repeat customer interruptions.

There were no planned interruptions lasting more than 12 or 24 hours which has been the case in the last 3 years (**Lines B2.8 and B2.9**).

2.2.3 Lines B2.10-B2.14 - Properties affected by unplanned interruptions

AR24 saw a slight increase in properties experiencing unplanned interruptions to supply across all durations. These were largely attributed to major weather events (like storms Babet, Isla and Jocelyn) which caused large scale impact to our network resulting in interruptions to supply. Weather related events and in particular damage to pipe bridges attribute to over 50% of the increase in events greater than 24 hours. Performance in this table improved significantly when compared against AR22 which was also impacted by significant weather events and is comparable with historical years.

A comparison of the number of properties affected by unplanned interruptions to supply is provided in Table 5 below.

Table 5: Properties affected by unplanned interruptions in AR23 and AR24.

Line Ref		2022-2023	2023-2024	Variance	% change
B2.10	Less than 3 hours unplanned	209640	203311	-6329	-3.02%
B2.11	More than 3 hours unplanned	92460	94899	2439	2.64%
B2.12	More than 6 hours unplanned	5065	5662	597	11.79%
B2.13	More than 12 hours unplanned	541	566	25	4.62%
B2.14	More than 24 hours unplanned	26	112	86	330.77%

2.2.4 Lines B2.15-B2.19 - Interruptions caused by third parties

Overall Interruptions caused by third parties (and outside Scottish Water's control) has decreased in AR24. There were 28 less events caused by third party damage when compared to AR23, with a total of 264 events. This caused an overall reduction in the number of properties which have been affected by interruptions caused by third parties. There was a significant increase for durations greater than 12 and 24 hours, with the largest interruption was caused by us being unable to access an exclusion zone for over 72 hours following a gas explosion in Edinburgh. However, for interruptions less than 6 hours there has been a reduction compared to AR23 (Table 6).

Table 6: Summary of interruptions to supplies caused by third parties for AR23 and AR24.

Line Ref		2022-2023	2023-2024	Variance	% change
B2.15	Less than 3 hours caused by third parties	9744	7260	-2484	-25.49%
B2.16	More than 3 hours caused by third parties	7129	5891	-1238	-17.37%
B2.17	More than 6 hours caused by third parties	2347	1579	-768	-32.72%
B2.18	More than 12 hours caused by third parties	120	458	338	281.67%
B2.19	More than 24 hours caused by third parties	2	22	20	1000.00%

The increase in the interruptions greater than 12 hours is related to three events which account for 400 properties, one of which was a boil water notice to protect public health and the other two were health and safety reasons related to depth of excavation and proximity to public carriageway.

2.2.5 Lines B2.20-B2.24 - Unplanned interruptions (overrun of planned interruptions)

There was a decrease in the number of events less than three hours in duration overran their planned times this year when compared to AR23 partly due to improved stakeholder communication and network controls.

The number of properties affected by overruns of over three hours has increased, due to a small number of events exceeding their planned interruptions. Whilst overruns for more than six hours had a small decrease.

A comparison of individual lines for AR23 and AR24 is contained in Table 7 below.

Table 7: **Summary of unplanned interruptions (overrun of planned interruptions) for AR23 and AR24.**

Line Ref		2022-2023	2023-2024	Variance	% chang
B2.20	Less than 3 hours unplanned (overruns of planned interruptions)	5180	150	-5030	-97.1%
B2.21	More than 3 hours unplanned (overruns of planned interruptions)	1121	1595	474	42.2%
B2.22	More than 6 hours unplanned (overruns of planned interruptions)	49	24	-25	-51.1
B2.23	More than 12 hours unplanned (overruns of planned interruptions)	0	5	5	100.0%
B2.24	More than 24 hours unplanned (overruns of planned interruptions)	0	0	0	

Line B2.25 - Average supply interruption greater than three hours (minutes per property)
Details are presented in Table 8 below.

Table 8: Average supply interruption greater than three hours (minutes per property) for AR23 and AR24.

Line Ref		2022-2023	2023-2024	Variance	% chang
B2.25	Average supply interruption greater than three hours (minutes per property)	14.181	14.79	0.609	4.1%

Average supply interruption greater than 3 hours (minutes per property) was 14.79 mins/property **Line B2.25**) compared with 14.18 mins/property in AR23. This shows that our time to respond and recover remained strong despite an increase in number of ITS events, and numerous named storms throughout the winter months.

2.2.6 Lines B2.26-B2.29 - Total weighted properties for OPA

As explained in the commentary for **Lines B2.10 - B2.14**, there was an increase of 774 to 6481 properties experiencing unplanned interruptions to supply this reporting year. This can be attributed to an increase of severe weather events including pipe bridges being washed away in Dunoon and Banchory attributing to the majority of greater than 24-hour outages.

A comparison of total weighted properties for OPA for AR23 is provided in Table 9 and shows an overall increase. A breakdown of the line calculations are presented in Table 10.

Table 9: Total weighted properties for OPA for AR23 and AR24.

Line Ref		2022-2023	2023-2024	Variance	% change
B2.26	Total number of properties restored > 6 hours	5114	5686	572	11.18%
B2.27	Total number of properties restored > 12 hours	541	571	30	5.55%
B2.28	Total number of properties restored > 24 hours	26	112	86	330.77%
B2.29	Total weighted properties for OPA (>6 hours)	5707	6481	774	13.56%

It should be noted the weighting has only been applied to Line B2.29**.**

Table 10: Calculations applied for total weighted properties.

Line ref	Description		OPA weight
B2.26	Total number of properties restored > 6 hou	B2.12+B2.22	1
B2.27	Total number of properties restored > 12 hours	B2.13+B2.23	2
B2.28	Total number of properties restored > 24 hours	B2.14 + B2.24	4
B2.29	Total weighted properties for OPA (>6 hou	1*(B2.26 - B2.27)+2*(B2.27-B2.28)+4*(B2.28)	

B2.30 Total minutes lost per property

Total minutes lost per connected property for all interruptions but excluding those caused by a Third Party. Details are presented in Table 11 below.

Table 11: Total minutes lost per property for AR23 and AR24.

Line Ref		2022-2023	2023-2024	Variance	% change
B2.30	Total minutes lost per **connect** property (all incidents)		22.05		

Despite an increase in total number of supply interruptions the total number of minutes lost per property remained consistent with AR23 this is due to an increased focus on communications within field teams and earlier escalation to respond and recover to customer interruptions.

B2.31 Total properties impacted by interruptions to supply

The total properties impacted, for all interruptions but excluding those caused by a Third Party. Details are presented in Table 12 below.

Table 12: Total properties impacted by interruptions to supply for AR23 and AR24.

Line Ref		2022-2023	2023-2024	Variance	% change
B2.31	Total properties impacted by interruptions supply (all incidents)	369063	361377	-7686	-2.1%

7686 fewer properties were impacted by an ITS event in AR24. In AR24 we have seen a decrease in the total number of unplanned ITS events across all durations, including 141 less unplanned interruptions. Comparing to AR24 we have seen a decrease in the total number of unplanned ITS events across all durations, with 141 less unplanned ITS events when comparing to AR23.

B2.32 Number of incidents that trigger a warning/alert

The total number of events that triggered an alert and resulted in an interruption to supply. Details are presented in Table 13 below.

Table 13: Number of incidents that trigger a warning / alert for AR23 and AR24.

Line Ref		2022-2023	2023-2024	Variance	% change
B2.32	Number of incidents that trigger a warning / alert (as per criteria)	90	117	27	30.00%

AR24 has seen a rise in the number of events which have triggered an alert and had an interruption to supply.

This means that more events have met the criteria set out in the SHOUT process, which then triggers an alert. The process sets out criteria whereby any event with the potential to meet or exceed the criteria triggers an alert. The criteria are shown in Table 14 below.

Table 14: SHOUT process alert triggers.

Type of Incident	AMBER	RED
WATER SUPPLY		
No water for greater than 3 hours	400 to 6000 Properties	Greater than 6000 Properties
No water for greater than 6 hours	150 to 3000 Properties	Greater than 3000 Properties
No water for greater than 12 hours	1 to 3000 Properties	Greater than 3000 Properties

2.3 Investment

Low pressure

The Improve Pressure Management Approach (MA070) has been combined with MA001 (Recurring Customer Interruptions (RCI)) and MA015 (ITS) into the new policy document MA111 Water Distribution. No changes to the criteria or policy have been made but more detail into the considerations and data sources has been added to the updated document. The low pressure promotion policy criteria has a two-tiered approach:

1. Properties where we are unable to provide 1 bar pressure at the property boundary and are included on the Low-Pressure Register (LPR).
2. Properties with a measured pressure between above 1 bar, but below 1.5 bar and with three or more contacts per annum or five or more times in three years.

Investigations were carried out on all properties that were on the LPR prior to SR21, along with improvements to the process for investigating new properties for addition onto the LPR. There has been £3.4m of investment committed during the first 2 years of SR21. Two projects are forecast to be completed in AR25 which should remove a further 28 properties from the C1 low pressure register (subject to post project logging). The total value of the remaining projected investment is £372k which will utilised for investigation activities over the final years of SR21.

Interruptions to supply

The Management Approaches that cover bursts and interruptions have been merged into MA111. The criteria used in AR24 are outlined below.

- MA001 Recurring Customer Interruptions (RCI) – the Policy Criteria is no more than three interruptions in 12 months or five interruptions in three years

- MA015 Interruptions to Supply – covering output from the Asset Risk Models, Asbestos Cement (AC) Water Mains Accelerated Replacement, Transient / Pressure Management and Responsive Mains Repairs

Up to the end of AR24 period, Scottish Water has committed almost £252m in responsively repairing water mains and activities to minimise the rate of failure. This also includes planned mains rehabilitation and network management solutions to reduce interruptions. During SR21, 370 responsive and planned projects were completed with 120 more in the delivery phase. This has resulted in the replacement of 318km of water mains during the first 3 years of the investment period.

2.4 Data

2.4.1 Lines B2.2-B2.4 - Low Pressure

Information on properties receiving low pressure is held on Scottish Water's Low Pressure Register within Microsoft Dynamics, our customer relationship management system. Potential, new low-pressure problems are identified from customer contacts and investigations in connection with investment projects and operational changes. All property numbers contained in

Microsoft Dynamics are address-specific and have been subject to data cleansing and checking by pressure logging.

Scottish Water initiates investigations at existing properties where it was believed the historically reported low pressure could be resolved or was erroneous. The pressure was logged at identified sites and where relevant, the properties were removed from the register. No new investigations are initiated by Scottish Water to identify new low-pressure properties annually following desk-based assessments.

There were no substantial changes to the methodology of previous years.

- The Low Pressure Register platform on Microsoft Dynamics will continue to be utilised. This gives better information on case status and an improved reporting on performance figures.
- Planned pressure logging activities will continue to investigate cases and areas with pressure related contacts.

2.4.2 Assumptions used for forecast data

There is an assumption made for adding one property every 2 months to the Low Pressure Register with forecasting figure of 6 being added as new issues. Hence, the forecast data for **Lines B2.2a to B2.2c** has been evenly spread across the 2023/24 period. The forecast data for the removal of properties, these have been predicted based on live projects expected to be completed on site by the end of March 2025.

2.4.3 Source of Data and Confidence Grades

2.4.4 Lines B2.5-B2.32 - Interruptions to Supply

Data related to Interruptions to Supply is held on the following software packages:

- Incident related data is captured in Ops Logs by our field technicians where it is monitored and assessed by the Intelligence Control Centre, who are monitoring the event as it happens.

- Once the event is closed it created an ITS event in Scottish Water Customer Relationship Management Software (CRM), Microsoft Dynamics. It is here where events over 6 hours are fully investigated, and data is cleansed. Reports are then produced via Power Bi.

Interruptions to Supply data has a confidence grade of A2.

All incident and property data reported in these lines by Scottish Water is held in corporate systems, where data input follows an auditable process.

2.4.5 Data Improvement Programmes

There is an on-going internal audit with data related improvements for interruptions to supply. These improvements include:

- Communication, recording and updating of live ITS events within corporate systems to ensure everyone has visibility of an event as it unfolds.
- Developing more robust data capture at front end.
- Developing appropriate procedures to verify significant data changes with the hydraulic

modelling team.

2.4.6 Assumptions made for forecast data

Forecasting for **Lines B2.5-B2.32** is based on 5-year historical data and using an average point.

3 Table B3 - Sewage – Internal Flooding

3.1 Overview

Flooding due to sewer overloading is primarily experienced during high intensity, short duration storm events which overwhelm the sewer network and other associated drainage systems. These storm events may not have a significant impact on observed rainfall volumes. Long duration, lower intensity rainfall events may result in higher observed rainfall volumes but generally do not overwhelm the sewer network.

In AR24, we have seen a return to conditions where a number of high intensity, short duration storms occurred, mostly in June-August 2023, with a widespread high intensity storm also occurring in early October 2023.

In comparison, in AR23, the level of rainfall experienced in most events was such that our sewer network was able to drain effectively resulting in less flooding due to overloaded sewers, with fewer higher intensity short duration storms. With less dry periods, ground conditions were more permeable because of consistent, relatively high levels of saturation.

Whilst the number of internal sewer flooding incidents due to sewer overloading is comparable with AR23 the number of properties affected increased, indicating the weather pattern of high intensity storms experienced in AR24 led to higher numbers of properties being impacted in each incident.

In AR24 we completed 6 investment projects to the value of £8.1m which reduced the risk of internal sewer flooding to 10 properties on the at-risk register (greater than 10% chance of occurrence per annum). Risk to a further 8 properties was reduced via projects such as Automated Pumped Non-Return Valves (APNRVs) at a total cost of £108k.

We endeavour to provide long term resolution to customers at the highest risk of sewer flooding. In addition, we implement interim measures where possible. Examples of shorter-term mitigation measures include installing flood doors, smart air bricks and non-return valves to protect customers whilst we develop and deliver longer term flood alleviation schemes. We invested £2.06m installing such mitigation measures at 163 properties in the last year. This was the third year of delivering an enhanced mitigation service, where possible, to customers in all risk categories of internal flooding to ensure they are better protected from sewer flooding during high intensity rainfall events.

Table B3 provides a summary of Scottish Water's Internal Flooding performance for the year AR24.

3.2 Performance Trends

Line B3.1 – Number of properties connected to sewerage system

The content of this line is brought forward from **Line A1.20**.
The number of properties reported in this category increased from 2,651,106 in AR23 to 2,672,411 in AR24 (an approximate 1% increase).

Lines B3.2 - B3.5 Annual Flooding – Overloaded Sewers

A comparison with the previous year's performance is provided in Table 15 below.

Table 15: Summary of flooding incidents and properties flooded in AR23 and AR24.

Line ref	Descriptions	AR23	AR24	Variance	% change
B3.2	Number of properties flooded in the year	48	93	45	94%
B3.3	Number of flooding incidents in the year	40	43	3	8%
B3.4	Number of flooding incidents attributed to severe weather	10	15	5	50%
B3.4a	Number of properties flooded during the year due to severe weather	13	36	23	177%
B3.5	Props. where flooding limited to uninhabited cellars only (o/loaded sewers)	7	19	12	171%

The above data show a similar number of incidents of Internal Flooding Overloaded Sewer (IFOS) in comparison to AR23. However, the number of properties affected is significantly higher. This is as a result of the severity of the storms that caused flooding - a higher number of properties were affected per incident.

In AR24, we saw a return to conditions where a number of high intensity, short duration storms occurred, mostly in June-August 2023, with a widespread high intensity storm also occurring in early October 2023.

In comparison, in AR23 the level of rainfall experienced in most events was such that our sewer network was able to drain effectively resulting in less flooding due to overloaded sewers, with fewer higher intensity, short duration storms. With less dry periods, ground conditions were more permeable because of consistent, relatively high levels of saturation.

To illustrate the rainfall conditions described above, Figure 2 below shows rainfall volumes from 2015-2023 as well as a percentage comparison of rainfall experienced against long-term average rainfall. Note: Rainfall as a % of the UK average is compared to 1981-2010 before 2021 and is compared to 1991-2020 for 2021 onwards.

In relation to this average, Scotland received approx. 95% of average rainfall in AR23, rising to 97% of average in AR24. (Equivalent UK-wide values are also provided for comparison only).

Figure 2: 2015-2023 Rainfall Volumes

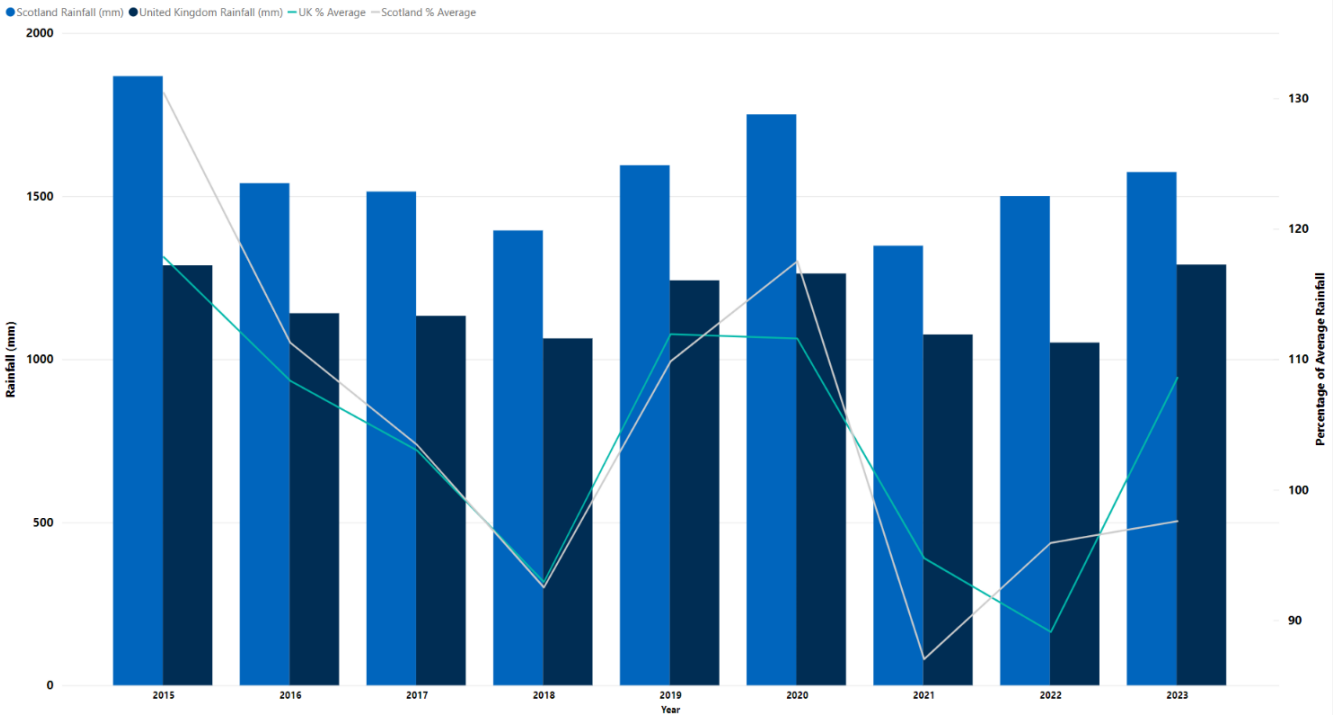
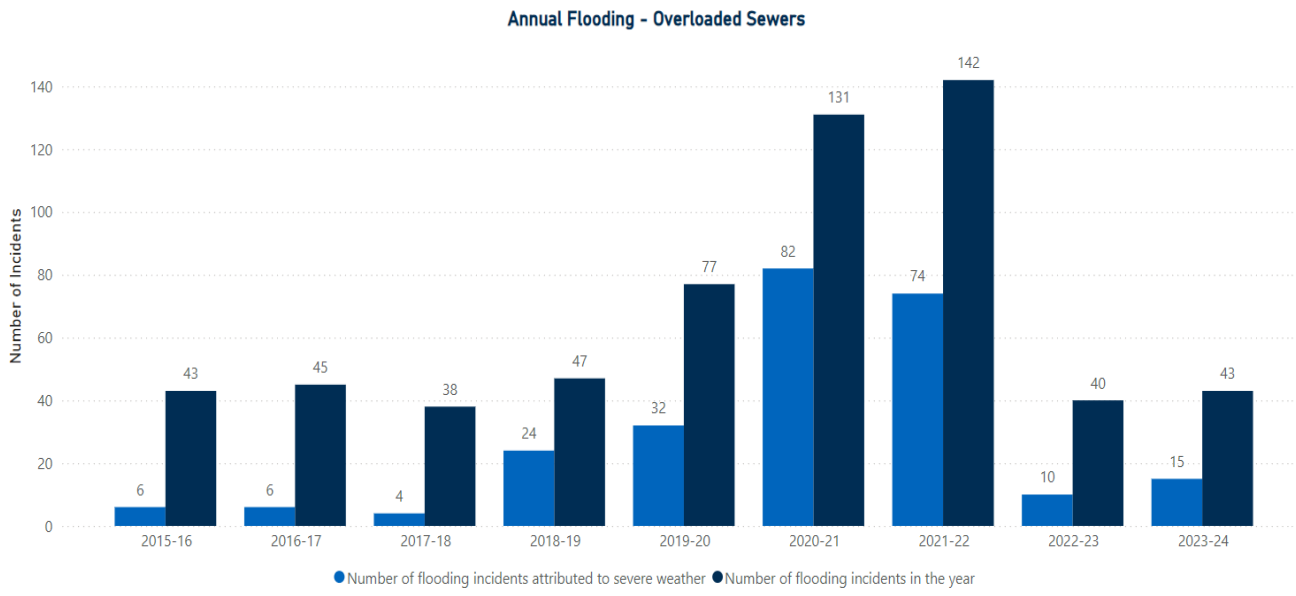


Figure 3 below depicts the total number IFOS incidents from AR15-AR24 in comparison to the number of those incidents eligible for severe weather exemption in each of the years. Years with high numbers of severe weather exemptions illustrate the impact of short duration, high intensity storms.

Figure 3: Internal Flooding Overloading Incidents (including & excluding severe weather incidents).



Specifically relating to **Line B3.4**, sewer flooding incidents are eligible for severe weather exemptions if they occur in >10-year return period storm events at properties not featuring on the Internal At Risk Register (ARR) at 2 in 10 or 1 in 10 at the time of the incident or subsequently by year end following Flooding Investigation Team (FIT) investigation. If multiple properties are affected by an incident an exemption is only applied if all properties do not feature on the internal ARR as above.

Regarding the 15 incidents eligible for severe weather exemption in AR24, the average return period was 238 years, with one incident recording a return period of greater than 800 years and a further two incidents recording return periods of greater than 1,000 years. This compares to an average return period of approximately 51 years over the 10 incidents in AR23, with the highest return period incident being 198 years.

In addition, since 2021, 344 properties have had flood mitigations measures installed which have potentially reduced the number of customers experiencing and reporting flooding. Further information on this enhanced service, which includes protection to properties experiencing repeat internal sewer flooding in severe weather, is provided in the investment section of this commentary. Scottish Water has an ongoing programme of work to provide flood mitigation measures to protect customers who experience, or are at risk of, sewer flooding.

3.2.1 Lines B3.6-B3.13 - Annual Flooding – Other Causes

B3.6 - Number of properties flooded in the year (Main Sewers Only)
The number of properties in this category has decreased from 93 in AR23 to 85 in AR24. This change is attributable to the typical annual variance in system performance.

B3.7 - Number of properties flooded in the year (All Sewers)
The number of properties in this category has decreased from 329 in AR23 to 326 in AR24. his change is attributable to the typical annual variance in system performance.

B3.8 - Properties which have flooded more than once in the last ten years (other causes)
In AR23 we were asked to base our reporting on 10 years of data, using an amalgamation of 5 years of data from Microsoft Dynamics (current operational system) and 5 years of data from Promise (previous system). The issues associated with this approach were discussed during the audit, and it was recognised that the confidence grading would be low.

Continuing with this approach in AR24, the number of properties reported in this line has increased from 188 to 224. This increase could be attributed to a more accurate data set as we reduce the number of years taken from our legacy system, Promise. We anticipate that this number will continue to increase until all years of data are gathered from Microsoft Dynamics, removing the issue of data discrepancies between the systems.

All internal sewer flooding incidents, regardless of cause, are monitored through the Flood Management Action Plan (FMAP) process, with repeat incidents within three and five-year timescales highlighted for further analysis. The Sewer Response Alternative Resolution Management (ARM) process identifies properties with repeat flooding occurring more than three times in any two-year period. Additionally, Scottish Water has introduced a focus on properties where our customers have experienced multiple incidents of internal sewer flooding, no matter the time lapse between incidents and causes. These initiatives raise confidence in this

information, allowing us to identify the cause and promote remedial action such as rehabilitation of the sewer, thereby reducing the risk and impact of internal flooding for our customers.

B3.9 - Flooding incidents and B3.9a number of properties flooded due to equipment failure

The number of incidents in this category has increased from 6 in AR23 to 7 in AR24. The number of properties flooded in this category has increased from 6 in AR23 to 7 in AR24.

Scottish Water continues to develop and deliver an improved, proactive, scheduled maintenance programme for all mitigations delivered by the Flooding Team to reduce the potential for equipment failure. In AR24 1,390 mitigation assets covering 390 properties were maintained. Going forward, mitigation measures maintenance will be scheduled according to Scottish Water's mitigation measures maintenance policy, which sets out the frequency of maintenance based on the type of mitigation measure installed.

The Maintenance Schedule Task (MST) process has also been enhanced to promote targeted regular remedial work where required for single sewer lengths and small areas of sewer network and enhanced maintenance for CSOs and pumping stations. It is anticipated that this will result in increased MSTs in AR25. These actions will serve to further reduce the risk of sewer flooding due to equipment failure.

B3.10 - Flooding incidents and B3.10a number of properties flooded due to blockages

The number of incidents in this category has increased from 62 in AR23 to 65 in AR24.

The number of properties flooded in this category has decreased from 82 in AR23 to 73 in AR24. Scottish Water is aware that in AR23 there was a blockage incident which affected a high number of properties. However, in AR24 all incidents affected a low number of properties which may explain the slight increase in incidents affecting lesser number of properties.

As set out in the Wastewater Gravity Sewers Management Approach (MA113), we carry out proactive inspections on critical sewers only. This concentrates our funding on the assets which, if they failed, would have the largest societal impact. We do not have a proactive sewer maintenance programme for non-critical single sewer assets or small areas of sewer network as this approach would be cost prohibitive and would not represent value for money for our customers.

In AR24 we continued to develop and enhance the Maintenance Schedule Task process to promote targeted regular remedial and proactive inspection work where required for single sewer lengths and small areas of sewer network and enhanced maintenance for CSOs and pumping stations. It is anticipated that this will result in increased MSTs in AR25. These actions will serve to reduce the risk of sewer flooding due to blockages.

B3.11 - Flooding incidents and B3.11a number of properties flooded due to sewer collapses

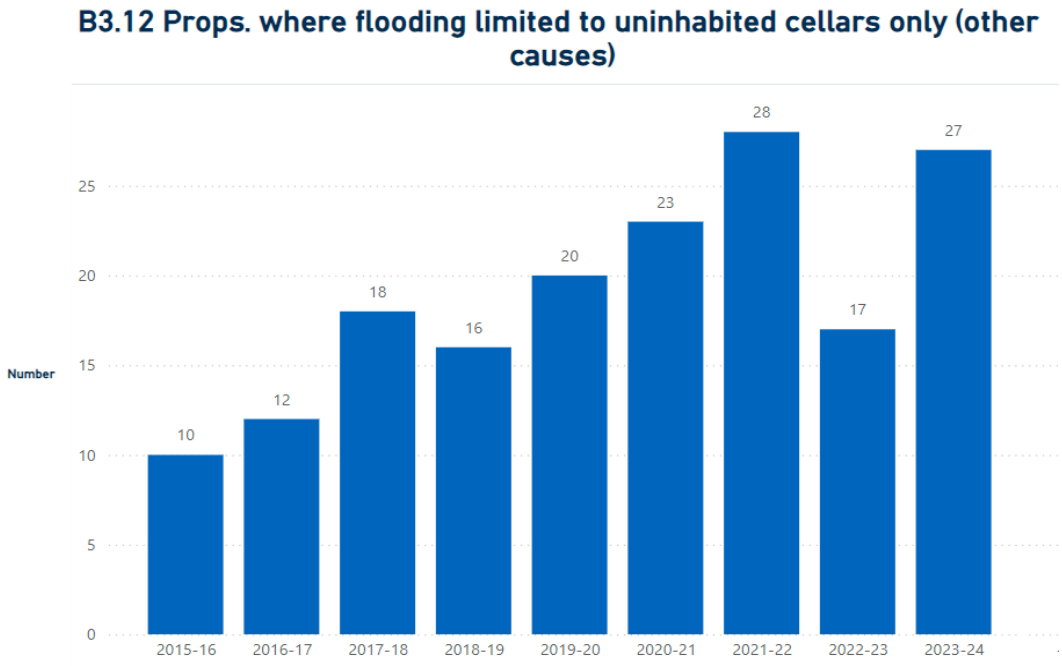
The number of incidents in this category is unchanged from 5 reported in AR23. The number of properties flooded in this category is unchanged from 5 reported in AR23.

Sewer Response continues to carry out CCTV surveys which assist in the identification of sewer collapses. As mentioned previously, proactive inspection and maintenance activities will serve to reduce the risk of sewer flooding due to sewer collapse.

B3.12 - Props. where flooding limited to uninhabited cellars only (other causes)

The number of properties in this category has increased from 17 in AR23 to 27 in AR24. This variance is attributable to the typical annual variance in system performance as shown in Figure 4 below.

Figure 4: Properties where flooding limited to uninhabited cellars (other causes)

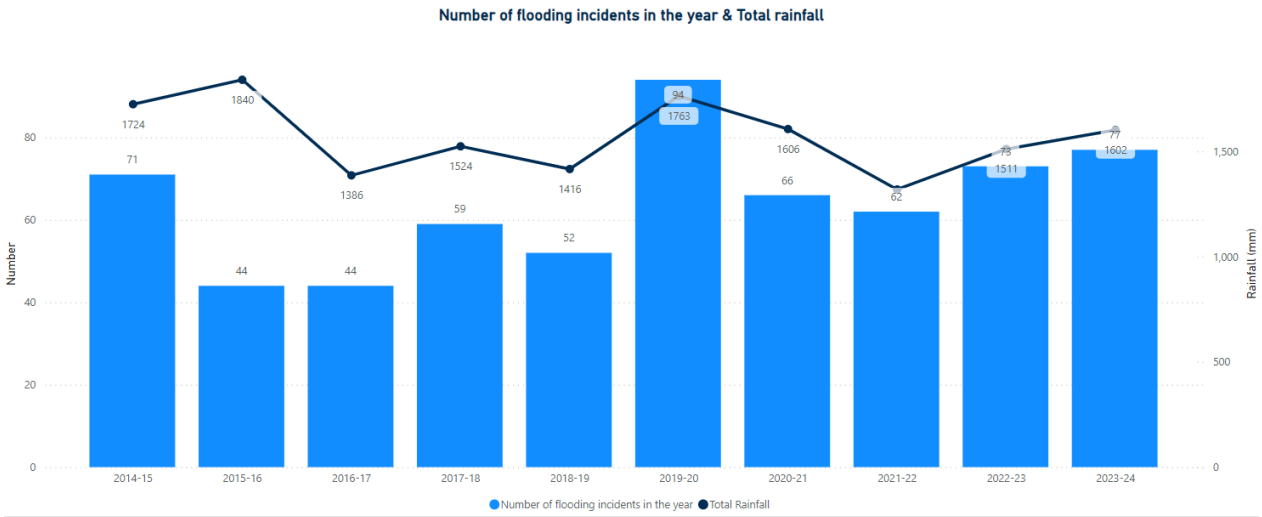


B3.13 - Number of flooding incidents in the year

The number of incidents in this category has increased from 73 in AR23 to 77 in AR24. This is calculated as the sum of **Lines B3.9, B3.10 and B3.11**.

This variance is attributable to the typical annual variance in system performance, as shown in Figure 5 below. Across most years, increases in incidents follow the same pattern as the increases in rainfall. The average number of incidents over the past 5 years was 74, and the average over the 10 years shown was 64.

Figure 5: Number of flooding incidents in the year (other causes) & total rainfall



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3.2.2 Lines B3.14-B3.17 - Properties on the "At Risk" Register - (i) At risk summary

B3.14 - 2 in 10 at end of year

The number of properties reported in this category has decreased from 189 in AR23 to 188 in AR24.

B3.15 - 1 in 10 at end of year

The number of properties reported in this category has increased from 136 in AR23 to 142 in AR24.

B3.16 - Total 1 in 10 and 2 in 10 properties at risk at end of year

The number of properties reported in this category has increased from 325 in AR23 to 330 in AR24 (circa 2% increase). The value in this line is the sum of **Lines B3.14 and B3.15**.

The increase in the total Internal At-Risk Register (ARR) is lower than AR23 reflecting a return to more usual investigation volumes in comparison to the investigation backlog experienced in AR23.

B3.17 1 in 20 risk at end of year

The number of properties reported in this category has increased from 228 in AR23 to 249 in AR24.

This includes a cluster of 12 properties resulting from one investigation. The increase is lower than AR23 reflecting a return to more usual investigation volumes in comparison to the investigation backlog experienced in AR23.

3.2.3 Lines B3.18-B3.19 - Properties on the "At Risk" Register - (ii) Problem status of properties on the register

B3.18 - Solved but temporary or being tested

The number of properties reported in this category has increased from 203 in AR23 to 238 in AR24.

- AR23 203/325 (62% of ARR) (i.e., **Line B3.18/Line 3.16**)
- AR24 238/330 (72% of ARR) (i.e., **Line B3.18/Line 3.16**)

To protect our customers' properties whilst we develop and deliver longer term flood alleviation schemes, Scottish Water has introduced a target to investigate the potential to offer to mitigate a minimum of 70% of the properties on internal ARR at 1in10 and 2in10. This currently equates to 231 Internal ARR properties.

This focus has driven a shift from 203 properties of the ARR in AR23 to 238 properties in AR24 having mitigations installed.

B3.19 - Number of properties on the At Risk register still to be resolved

The number of properties reported in this category has fallen from 122 in AR23 to 92 in AR24.

- AR23 122/325 (38% of ARR) (i.e., **Line B3.19/Line 3.16**)
- AR24 92/330 (28% of ARR) (i.e., **Line B3.19/Line B3.16**)

As referenced in **Line B3.18**, a focus on mitigation provision has driven a reduction in the number of properties not resolved either by mitigation or solution development from 122 of the ARR in AR23 to 92 in AR24.

Table 16: Total properties on Internal ARR - mitigation status

Total properties on ARR	330
B3.18 - Solved but temporary or being tested	238
B3.19 – Number of properties on ARR still to be resolved	92
Attrition (Unable to mitigate/Customer Refusal)	56

Overall, of the 330 ARR properties, 238 have mitigation installed, 92 do not. Of this 92, 56 are properties where Scottish Water was either unable to mitigate or the customer refused the offer of mitigation and the remaining 36 are on-going for Assessment / Delivery in AR25.

3.2.4 Lines B3.20-B3.22 - Properties on the "At Risk" Register - (iii) Annual changes to register

B3.20 - Removed by Scottish Water action

The number of properties reported in this category has decreased from 58 in AR23 to 18 in AR24.

Removals due to Scottish Water action are linked to the delivery of our SR21 investment programme and therefore the number of removals will vary each year depending on the particular projects being delivered.

In AR24 we completed 6 investment projects to the value of £8.1m that reduced risk of internal sewer flooding to 10 properties on the at-risk register (greater than 10% chance of occurrence per annum). Risk to a further 8 properties was reduced via low-cost capital projects such as APNRVs with a total cost of £108k.

B3.21 - Removed because of better information

The number of properties reported in this category decreased from 2 in AR23 to 1 in AR24.

Overall, the number of removals due to better information is consistently low, representing the high confidence/accuracy of investigations. This has been further improved in recent years by the introduction of comprehensive guidance and governance supported by Flooding Investigation Reports (FIRs).

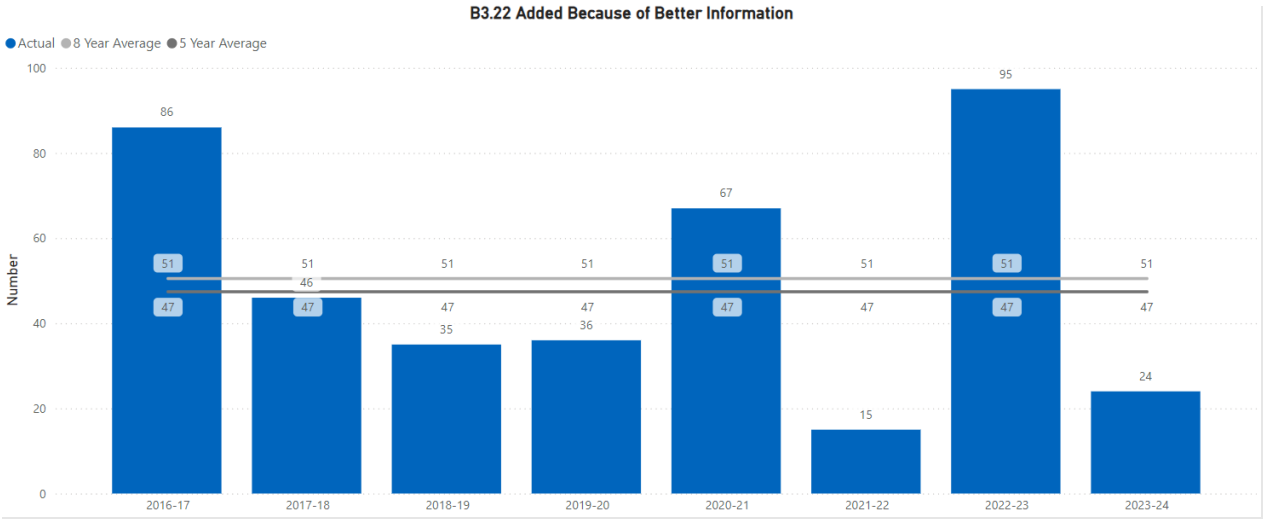
B3.22 – Added because of better information

The number of properties in this category has significantly decreased from 95 in AR23 to 24 in AR24.

The number of additions to the Internal At-Risk Register (ARR) is significantly lower than AR23 reflecting a return to more usual investigation volumes in comparison to the investigation backlog experienced in AR23. The graph below shows that the number of additions per year is similar to those prior to AR21.

The average number of ARR additions over the last 5 years has been approximately 47 properties per year; and over the 8 years shown in Figure 6 below, the average number of ARR additions has been 51.

Figure 6: Added because of better information.



It should be noted that for investment period planning for SR27, Scottish Water continues to use an average of 60 additions to the Internal ARR per year. This reflects the long-term average over 15+ years and is considered to be more appropriate for investment planning.

B3.23 - Percentage of population at risk of sewer flooding in a 1-in-50-year storm, based on modelled predictions

The percentage of the population at risk of sewer flooding in a 1-in-50-year storm, based on modelled predictions, was calculated at 4% in AR22 and remains unchanged in AR24.

The data is the result of modelling carried out to assess the risk of flooding from our sewers in compliance with Section 16 of the Flood Risk Management (Scotland) Act 2009. The modelling covers around 90% of the population of Scotland. This modelling is updated every 6 years, and an updated national assessment is not expected to be undertaken until the end of FRM cycle 2 and will be reported in AR28.

3.3 Investment

Scottish Water's Management Approach for SR21 (MA020) is to reduce flood risk to customers impacted by repeat, high consequence, internal sewer flooding, where this is not disproportionately expensive. This, combined with our ambition to never disrupt the lives of our customers or communities and never flood customers properties due to incapacity in our sewers under normal weather conditions, has seen us commit £64.95m so far in SR21 to deliver 42 capital projects to reduce the risk of internal sewer flooding to 118 properties and remove customers from our internal ARR.

The approved Investment Planning Scenario 2024 (IPS24.1) funding for the flooding programme (MA020) is £173.7m. Assuming this level of investment in sewer flooding remains available and that the funds are invested before the end of the investment period, this will deliver projects that reduce the risk of sewer flooding and forecast removal of 201 properties from the internal ARR and 146 locations from the external ARR.

As part of our SR21 Management Approach, we continue to deliver an enhanced Mitigation Service to provide protection to customers from the risk of flooding through provision of mitigation measures whilst permanent solutions are being identified and implemented. This approach covers the following:

- Properties which experience internal sewer flooding at greater than 5% chance of flooding in a year (1:20)
- Properties which experience repeat internal sewer flooding during severe weather events
- Properties which experience frequent/high impact external sewer flooding

This has seen an increased investment of £2.06m, providing mitigation measures to 163 properties to reduce the impact of internal sewer flooding in AR24.

The enhancement of our mitigations programme implemented in AR24 drives a forecast of a further £6.18m for mitigations for 489 properties to be delivered throughout the remainder of SR21.

The ability of Scottish Water to achieve the forecast performance and investment is largely dependent on the weather experienced throughout the period. In AR23 we experienced consistent rainfall with fewer short duration, high intensity storms. With less dry periods, ground conditions were more permeable because of consistent relatively high levels of saturation.

Whilst the number of internal sewer flooding incidents due to sewer overloading is comparable with AR23 the number of properties affected has increased, indicating the weather pattern of high intensity storms experienced in AR24 led to higher numbers of properties impacted in each incident.

Should we continue to experience a return to an increase in short duration, high intensity storms with no respite over the remainder of the investment period, we may find that our actual number of sewer overloading incidents, ARR additions and mitigation provision, exceeds the forecast numbers.

3.4 Data

3.4.1 Data sources and confidence grades

Internal flooding data is held on the following software packages:

- Cases/Calls regarding internal flooding incidents and properties affected are recorded within Scottish Water Customer Relationship Management Software (CRM), Microsoft Dynamics
- Salesforce Field Service software collates flooding data and integrates with Microsoft Dynamics providing the Flooding Team with more detailed, accurate and comprehensive information regarding flooding incidents and affected properties.
- The Flooding Database which contains all internal sewer flooding risk information, including the Internal "At Risk" Register, is now held on InfoAsset Manager (IAM). IAM is an update of the previous software InfoNet – providing a more secure and stable environment for our data. There has been no material change to its data or its use.

Scottish Water has maintained the confidence grading for **Lines B3.2-B3.13** as per AR23.

All lines, with the exception of **Line B3.8,** are graded A3.

We intend to monitor the accuracy of this over AR24 and forecast that we will likely increase our confidence grading to A2.

Line B3.8 has a confidence grading of B4 as the 10-year combined figure is made up of an amalgamation of data from both Microsoft Dynamics software and the historic Promise software, which is then reconciled within a spreadsheet.

Once this 10-year data is extracted solely from Microsoft Dynamics (in AR30) we expect to increase the overall confidence grading to A2.

3.4.2 Lines B3.14-23 have the following confidence grades:

Confidence grades have been held at the same values as AR23 i.e., B2, with the exception of **Lines B3.17, B3.18 and B3.19**. These lines have been upgraded from B3 to B2 due to:

- Review of historic internal 1in20 flooding locations (**Line B3.17**)
- Maturation of the mitigations inventory and programme (**Lines B3.18 and B3.19**)

Line B3.23 remains at B4 as an updated national assessment is not expected to be undertaken until the end of FRM cycle 2 in AR28.

3.4.3 AR24 Data Improvement Programmes

Mitigations Programme

In AR24 the mitigations programme continued to mature, providing a consolidated robust dataset. Maturation of the mitigations inventory and programme has allowed us to increase the confidence grade on **Lines B3.18 and B3.19** from B3 to B2.

Automation of the Flooding Team investigation process

In AR24 a new procedure was developed to enable the delivery of our investigations process using Microsoft Dynamics software as our workflow and data repository. This approach simplifies and enhances our data collation and ensures robustness, accuracy and ease of reporting.

Flooding Database Upgrade

In AR24 requirements gathering and optioneering was undertaken to identify a solution to replace the current provision for our flooding database, where we hold all flooding information regarding risk and impact for investigated properties and locations.

Hyrad Review

In AR24 a review of Hyrad rainfall analysis for internal properties on the flooding database using FEH13 rainfall was undertaken to gain the best understanding of current risk level and to understand the full extent of flooding clusters/properties that qualify for capital projects and mitigation measures. This review allowed us to increase the confidence grade on **Line B3.17** from B3 to B2.

3.4.4 AR25 Data Improvement Programmes

The following improvements are planned during 2024-25:

Automation of the Flooding Team investigation process

In AR24 a new procedure was developed to enable the delivery of our investigations process using the Microsoft Dynamics software as our workflow and data repository. This approach simplifies and enhances our data collation and ensures robustness, accuracy and ease of reporting.

In AR25 the procedure will be rolled out and should provide the following benefits:

- Increased use of corporate system
- Fully auditable process
- Controlled data entry
- Enhanced data collation
- Enhanced reporting capabilities
- Increase of confidence grading for **Lines B3.2 - B3.13** excluding **Line B3.8**.

Flooding Database Upgrade

In AR24 requirements gathering and optioneering were undertaken to identify a solution to replace our current database provision for flooding, where we hold all flooding information regarding risk and impact for investigated properties and locations.

In AR25 we will confirm the preferred solution, develop a project to implement this solution and roll out the new functionality. An improved solution will enrich our ability to collate information, increase the robustness and accuracy of our data and should allow us to increase the confidence of **Lines B3.14 - B3.22** from B2 to A2.

3.4.5 Assumptions used for forecast data

Forecasting has been provided for all lines in the B3 table.

Forecasting for **Lines B3.2-B3.13** is based on 3-year and 5-year average incident and property data related to sewer flooding.

Forecasting for **Lines B3.14-B3.22** is based on the current “At Risk” Register position and predicted additions and removals from the “At Risk” Register. These predicted additions and removals are based on historic addition trends and the current status of the Flooding Programme.

Line B3.23 is forecasted to remain the same as an updated national assessment is not expected to be undertaken until the end of Flood Risk Management (FRM) cycle 2 and will be reported in AR28.

Confidence grades for forecasted **Lines B3.2-B3.22** have been set at C4. As above, the forecasted numbers are based on average/historic data as well as current status data. A ‘C’ grading is appropriate given the estimated nature of the forecast. It is recognised that most lines are highly weather dependent.

4 Table B3a - Sewage External Flooding

4.1 Overview

Flooding due to sewer overloading is primarily experienced during high intensity, short duration storm events which overwhelm the sewer network and other associated drainage systems. These storm events may not have a significant impact on observed rainfall volumes. Long duration, lower intensity rainfall events may result in higher observed rainfall volumes but generally do not overwhelm the sewer network.

In AR24, we have seen a return to conditions where a number of high intensity, short duration storms occurred, mostly in June-August 2023, with a widespread high intensity, storm also occurring in early October 2023.

In comparison, in AR23 the level of rainfall experienced in most events was such that our sewer network was able to drain effectively resulting in less flooding due to overloaded sewers, with fewer higher intensity short duration storms. With less dry periods, ground conditions were more permeable because of consistent relatively high levels of saturation.

The number of external sewer flooding incidents and properties affected in AR24 is consequently higher than reported in AR23.

Scottish Water has continued to prioritise and undertake External Flooding Overloaded Sewer (EFOS)investigations providing more customers with our assessments of risk classifications for their properties.

In AR24 we completed four investment projects to a value of £7.37m which reduced the risk of external sewer flooding at sixteen areas. Three of these projects were delivered with a solely external sewer flooding driver.

The B3a table provides a summary of Scottish Water's External Flooding performance for AR24.

4.2 Performance Trends

4.2.1 Lines B3a.1-B3a.5 - Annual Flooding summary - (i) Overloaded sewers

Table 17 below shows a marked increase in relation to both the number of External Flooding Overloaded Sewer (EFOS) incidents and the number of areas affected by those incidents in comparison to AR23.

Table 17: Summary of flooding incidents and areas flooded in AR23 and AR24.

Line ref	Descriptions	AR23	AR24	Variance	% change
B3a.1	Areas flooded externally in the year	157	244	87	55%
B3a.2	Curtilage flooding incidents in the yea	68	109	41	60%
B3a.3	Highway flooding incidents	72	105	33	46%
B3a.4	Other flooding incidents	14	22	8	57%

B3a.5	Total flooding incidents	154	236	82	53%

In AR24, we have seen a return to conditions where a number of high intensity, short duration storms have occurred, mostly in June-August 2023, with a widespread high intensity storm also occurring in early October 2023.

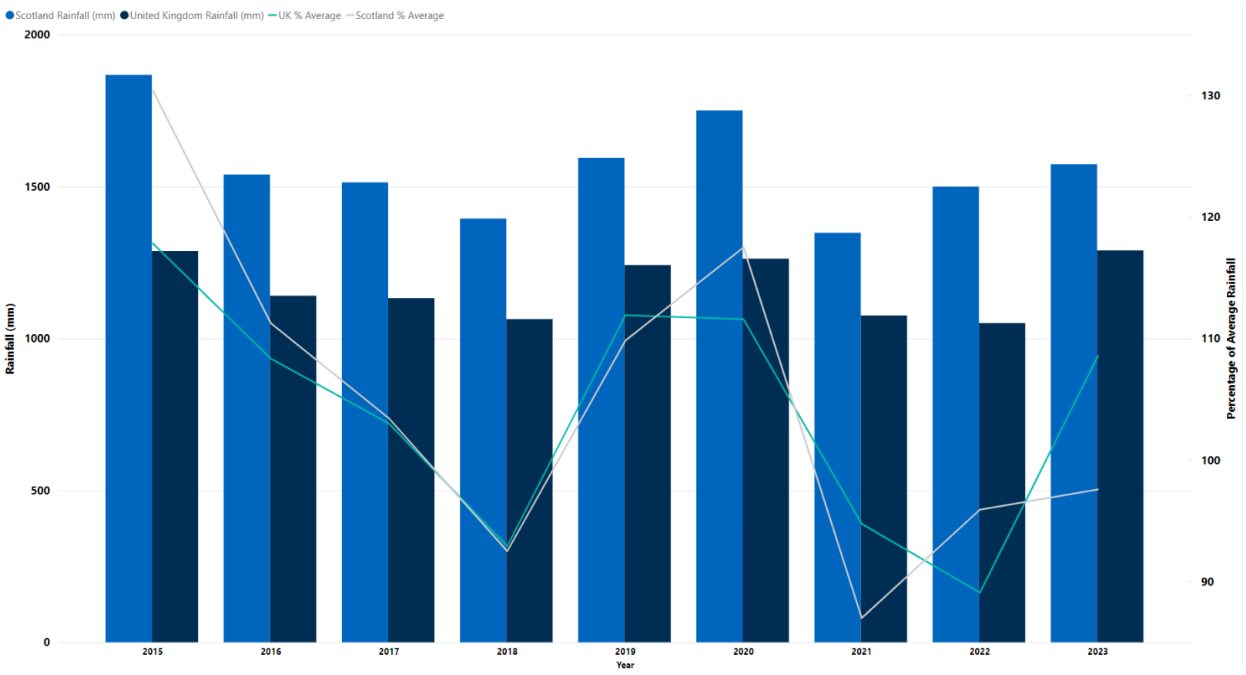
In comparison, in AR23 the level of rainfall experienced in most events was such that our sewer network was able to drain effectively resulting in less flooding due to overloaded sewers, with fewer higher intensity short duration storms. With less dry periods, ground conditions were more permeable because of consistent relatively high levels of saturation.

Scottish Water has continued to prioritise and undertake EFOS investigations providing more customers with our assessments of risk classifications for their properties.

To illustrate the rainfall conditions described above, Figure 7 shows rainfall volumes from 2015-2023 as well as a percentage comparison of rainfall experienced against long term average rainfall. Note: Rainfall as a % of the UK average is compared to 1981-2010 before 2021 and is compared to 1991-2020 for 2021 onwards.

In relation to this average, Scotland received approx. 95% of average rainfall in AR23, rising to 97% of average in AR24. (Equivalent UK-wide values are also provided for comparison only).

Figure 7: 2015-2023 Rainfall Volumes.



B3a.6 - External flooding incidents (overloaded sewers attributed to severe weather)

The number of external sewer flooding incidents is greater than the number of internal sewer flooding incidents.

Scottish Water's Flooding Investigation Team does not currently review all external sewer flooding incidents. In AR24 we have continued to identify, review, and assess high priority and high impact external sewer flooding incidents, and have expanded this to include medium priority incidents. However, as we do not investigate all external sewer flooding incidents it is considered not appropriate for us to attribute incidents to severe weather and therefore claim exemptions.

4.2.2 Lines B3a.7-B3a.10 - Annual Flooding summary – (ii) Other causes

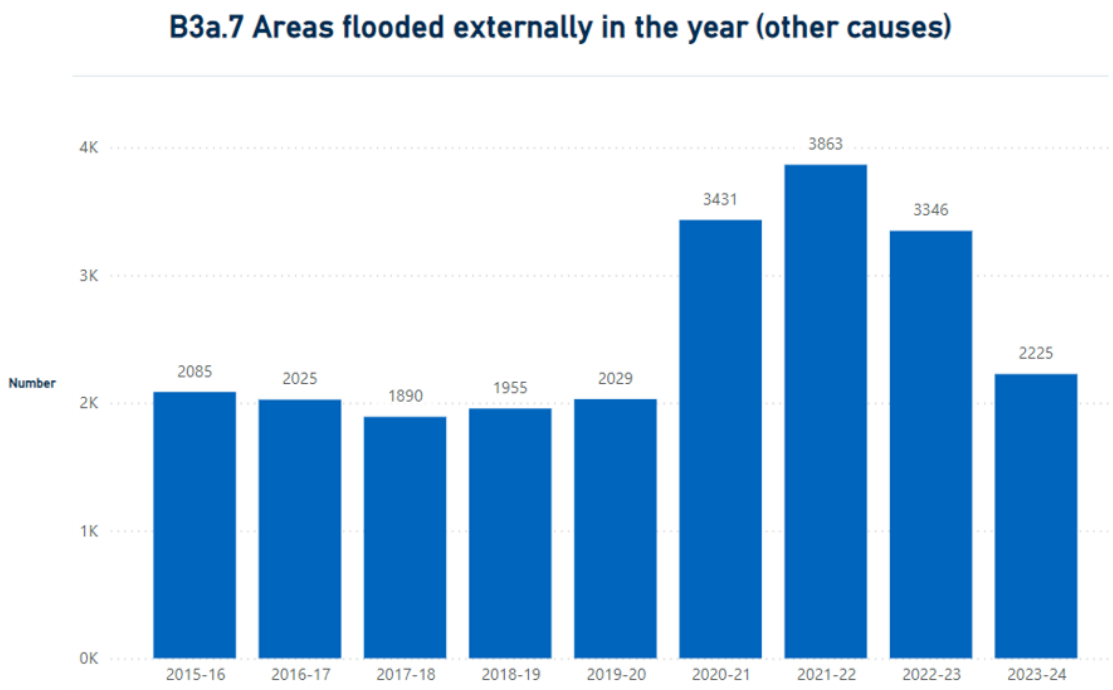
B3a.7 - Areas flooded externally in the year (other causes)

The number of areas in this category has decreased from 3,346 in AR23 to 2,225 in AR24.

Whilst this decrease appears to be significant it represents a return to figures typically seen prior to AR21 – see Figure 8 below. This could be attributed to a combination of the impacts of increased Maintenance Scheduled Tasks (MSTs) and more typical weather patterns.

As set out in the Wastewater Gravity Sewers Management Approach (MA113), we carry out proactive inspections on critical sewers only. This concentrates our funding on the assets which, if they failed, would have the largest societal impact. We do not have a proactive sewer maintenance programme for non-critical single sewer assets or small areas of sewer network as this approach would be cost prohibitive and would not represent value for money for our customers.

Figure 8: Areas flooded externally in the year (other causes)



B3a.8 - Flooding incidents (other causes - equipment failure)

The number of incidents in this category has increased from 16 in AR23 to 23 in AR24.

Scottish Water continues to promote targeted regular remedial and proactive inspection work where required for single sewer lengths and small areas of sewer network and enhanced maintenance for CSOs and pumping stations.

B3a.9 - Flooding incidents (other causes - blockages)
The number of incidents in this category has decreased from 1,319 in AR23 to 1,098 in AR24. Through the Sewer Response Alternative Resolution Management (ARM) process we monitor incidents of repeat flooding. ARM identifies properties with repeat flooding more than three times in any two-year period. This reduction in this number may be attributed to this continued focus.

B3a.10 - Flooding incidents (other causes - collapses)
The number of incidents in this category is unchanged from 35 reporting in AR23.

Sewer Response continue to carry out CCTV surveys which assist in the identification of sewer collapses.

4.2.3 Lines B3a.11-B3a.14 - Areas on the 1:10, 2:10, 1:20 at-risk register – (i) At-risk summary

B3a.11 - 2 in 10 risk at end of year
The number of areas reported in this category has increased from 1,652 in AR23 to 1,747 in AR24.

B3a.12 - 1 in 10 risk at end of year
The number of areas reported in this category has increased from 1,007 in AR23 to 1,026 in AR24.

Ba3.13 - 1 in 20 risk at end of year
The number of areas reported in this category has increased from 140 in AR23 to 147 in AR24.

4.2.4 Line B3a.14 - 1 in 10, 2 in 10, 1 in 20 risk at end of year

The value in this line is the sum of **Lines B3a.11, B3a.12 and B3a.13**. The number of areas reported in this category has increased from 2,799 in AR23 to 2,920 in AR24.

This is an increase of circa 4% in the total External At-Risk Register (ARR) with Scottish Water continuing to prioritise and undertake EFOS investigations providing more customers with our assessments of risk classifications for their properties.

4.2.5 Lines B3a.15-B3a.16 - Areas on the 1:10, 2:10, 1:20 at-risk register - (ii) Problem status

B3a.15 - Problems solved by temporary measures or subject to testing
The number of areas reported in this category has increased from 205 in AR23 to 242 in AR24 (see Table 18 below).

- AR23 205/2799 (7% of ARR) (i.e., **Line B3a.15/Line B3a.14**)
- AR24 242/2920 (8% of ARR) (i.e., **Line B3a.15/Line B3a.14**)

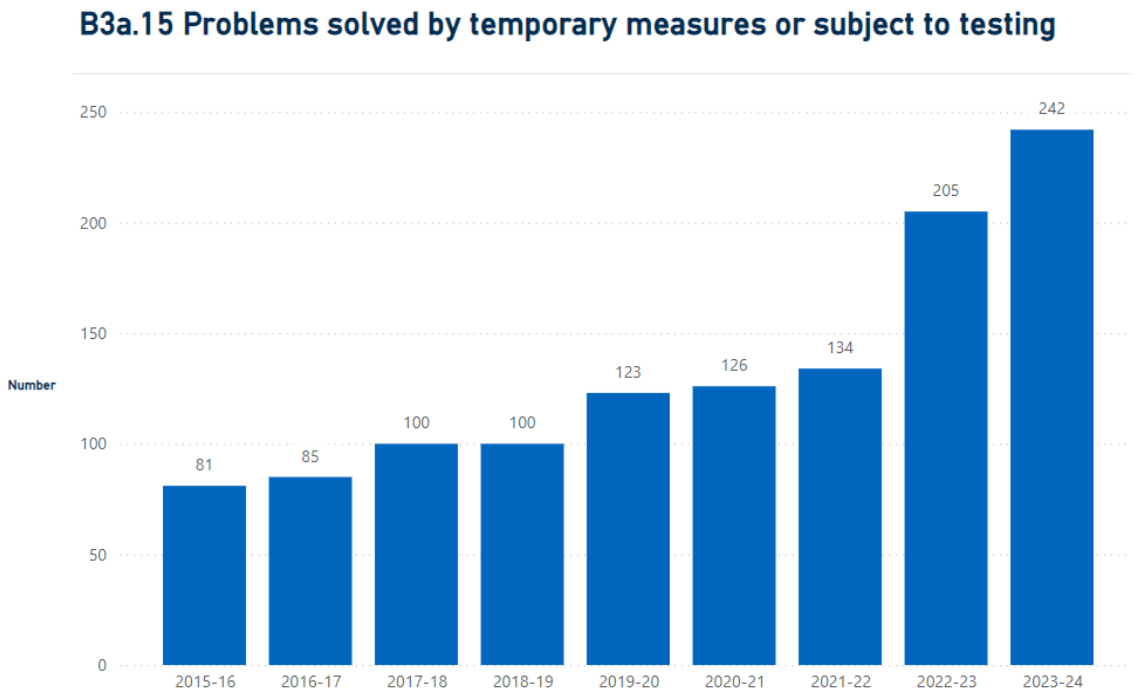
In line with our Management Approach, we continue to provide our enhanced Mitigation Service to deliver temporary measures, where possible, to include areas which experience frequent/high impact external sewer flooding.

Currently this figure represents areas on the External ARR with any temporary measures, including those with temporary measures which only protect against internal sewer flooding outwith our Internal ARR.

In AR25 we will investigate the separation of flood risk reduced by temporary measures into internal only and external (curtilage) only categories.

Figure 9 below shows the number of mitigated areas reported in **Line B3a.15** across the last 5 years.

Figure 9: Solved by temporary measures AR16-24.



B3a.16 - Problems awaiting solution

The number of areas reported in this category has increased from 2,594 in AR23 to 2,678 in AR24.

- AR23 2,594/2,799 (93% of ARR) (i.e., **Line B3a.16/Line B3a.14**)
- AR24 2,678/2,920 (92% of ARR) (i.e., **Line B3a.16/Line B3a.14**)

Table 18: Total properties on External ARR - mitigation status

Total properties on ARR	2920
B3a.15 - Problems solved by temporary measures or subject testing	242
B3a.16 – Problems awaiting solution	2678

In line with our Management Approach, we continue to provide our enhanced Mitigation Service to deliver temporary measures, where possible, to include areas which experience frequent/high impact external sewer flooding.

4.2.6 Lines B3a.17-B3a.21 - Areas on the 1:10, 2:10, 1:20 at-risk register - (iii) Annual changes to 1:10, 2:10, 1:20 register

B3a.17 - Removed by Scottish Water action

The number of areas reported in this category has decreased from 33 in AR23 to 16 in AR24.

Removals due to Scottish Water action are linked to the delivery of our SR21 investment programme and therefore the number of removals will vary each year depending on the particular projects being delivered.

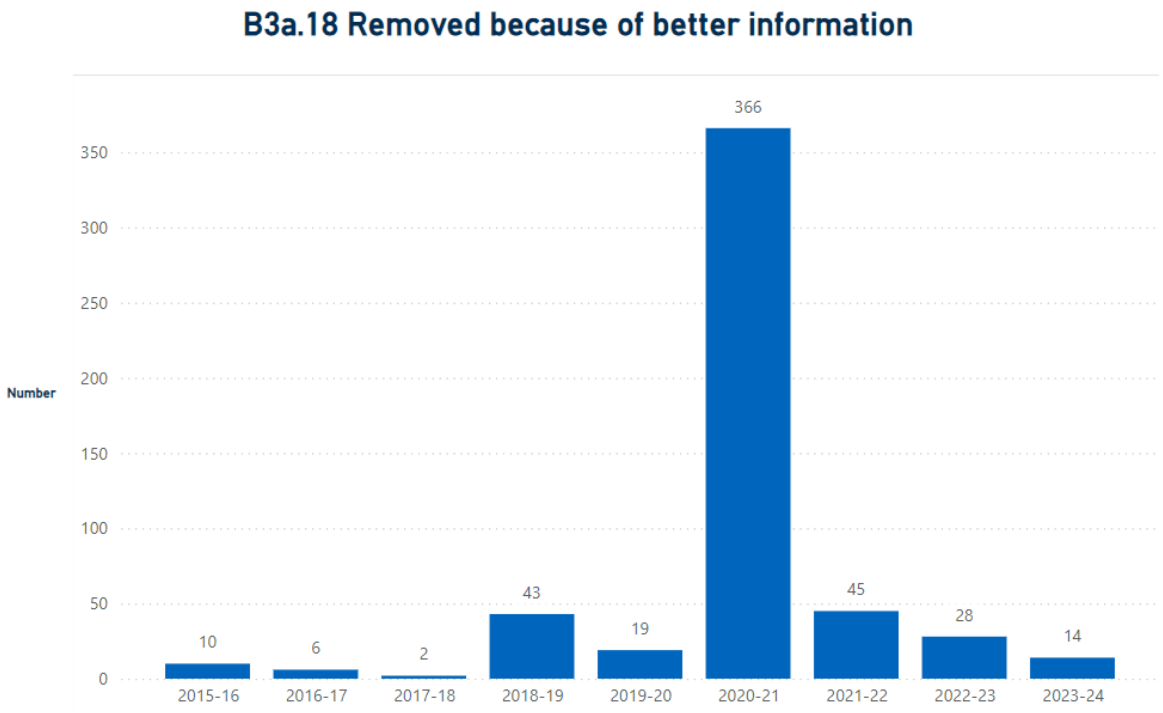
The 16 removals in AR24 resulted from Scottish Water delivering 4 investment projects to reduce the risk of external sewer flooding. As part of this, Scottish Water continues to address the highest priority External At-Risk Register areas delivering 3 projects solely with an external sewer flooding driver, which reduced the risk at 12 areas (curtilages/ highways / OFAs).

B3a.18 - Removed because of better information

The number of areas reported in this category has decreased from 28 in AR23 to 14 in AR24.

This decrease represents typical annual variance as shown in Figure 10.

Figure 10: Removed because of better information AR16-24.



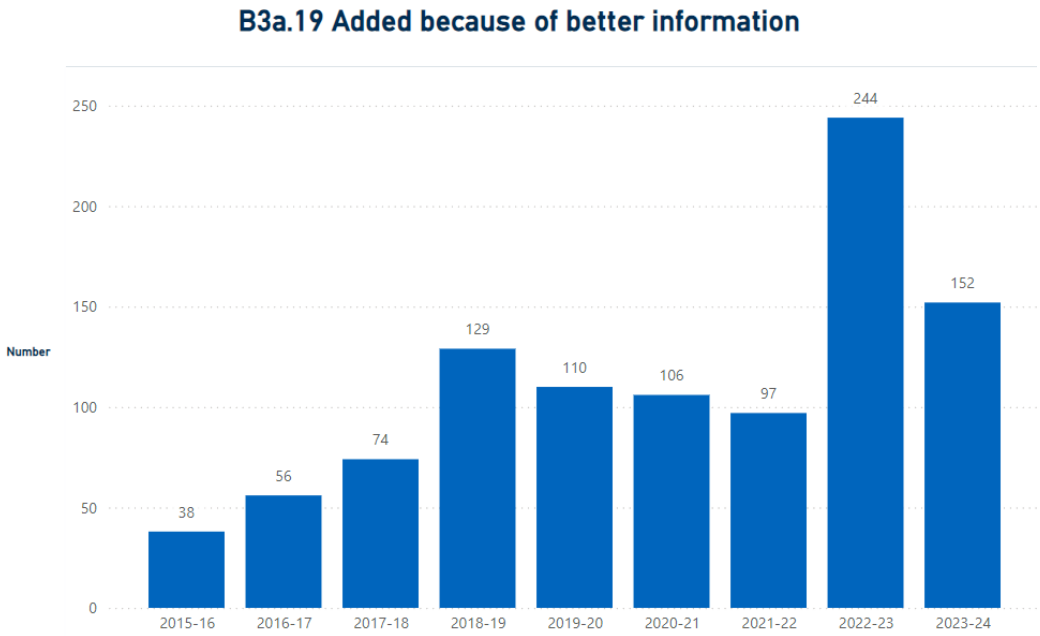
B3a.19 - Added because of better information

The number of areas reported in this category has decreased from 244 in AR23 to 152 in AR24.

The number of additions to the External At-Risk Register (ARR) is lower than AR23, reflecting a return to more usual investigation volumes in comparison to the investigation backlog experienced in AR23.

Whilst Figure 11 below represents this decrease, it also shows the impact of our continuing commitment to investigate high and medium priority incidents of external sewer flooding. In AR24 we carried out 47 high priority external sewer flooding investigations.

Figure 11: Added because of better information AR16-24.



B3a.20 - Added because of increased demand

All additions to the External ARR are identified as being due to better information. Scottish Water carries out Network Impact Assessments for all new development, ensuring that they do not adversely impact the network. This negates the need to add properties due to increased demand.

For this reason, **Line B3a.20** is reported as zero. We would be happy to discuss the possibility of removing this line in future Annual Return submissions.

B3a.21 - Moved from external to internal register

The number of areas reported in this category has decreased from 13 in AR23 to 1 in AR24. This decrease reflects a return to more usual investigation volumes in comparison to the investigation backlog experienced in AR23, though we continue our commitment to investigate high and medium priority incidents of external sewer flooding.

4.3 Investment

The number of additions to the External At-Risk Register (ARR) is lower than AR23 reflecting a return to more usual investigation volumes in comparison to the investigation backlog experienced in AR23.

Scottish Water's Management Approach for SR21 (MA020) is to reduce flood risk to customers impacted by repeat, high consequence, internal sewer flooding, where this is not disproportionately expensive. This, combined with our ambition to never disrupt the lives of our customers or communities and never flood customers properties due to incapacity in our sewers under normal weather conditions, has seen us commit £64.95m so far in SR21 to deliver 42 capital

projects to reduce the risk of internal sewer flooding to 118 properties and remove customers from our internal ARR. This investment has also reduced the risk of external sewer flooding to 16 areas.

The approved Investment Planning Scenario 2024 (IPS24.1) funding for the flooding programme (MA020) is £173.7m. Assuming such levels of investment in sewer flooding remains available and invested before the end of the investment period will deliver projects that a reduce the risk of sewer flooding and forecast removal of 201 properties from the internal ARR and 146 locations from the external ARR.

The ability of Scottish Water to achieve the forecast performance and investment is largely dependent on the weather experienced throughout the period. In AR23, we experienced consistent rainfall with fewer short duration, high intensity storms. With less dry periods, ground conditions were more permeable because of consistent relatively high levels of saturation.

In AR24, we have seen a return to conditions where a number of high intensity, short duration storms have occurred. The number of external sewer flooding incidents and properties affected is consequently higher than reported in AR23.

Should we continue to experience a return to an increase in high intensity, short duration storms with no respite over the remainder of the investment period, we may find that our actual number of sewer overloading incidents, ARR additions and mitigation provision, exceeds the forecasted numbers.

4.4 Data

4.4.1 Data sources and confidence grades

Data about external flooding is held on the following software packages:

- Cases/Calls regarding external flooding incidents and properties affected are recorded within Scottish Water Customer Relationship Management Software (CRM), Microsoft Dynamics.

- Salesforce Field Service software collates flooding data and integrates with Microsoft Dynamics providing the Flooding Team with more detailed, accurate and comprehensive information regarding flooding incidents and affected properties.

- The Flooding Database which contains all external flood risk information, including the External At-Risk Register, is now held on InfoAsset Manager (IAM). IAM is an update of the previous software InfoNet – providing a more secure and stable environment for our data. There has been no material change to its data or its use.

Confidence grades for **Lines B3a.1- B3a.10** have been held at the same values as AR23, A4.

There is a known issue with property/area counts for external sewer flooding incidents. Most external sewer flooding incidents are currently reported as one property or area affected. We planned to resolve this during AR24. Testing and implementing the changes required to improve this has been challenging. However, it is our intention that this will be resolved in AR25.

The AR24 and forecasted AR25 confidence grades for these lines are lower than the confidence grades given to the equivalent lines in the B3 table as the Flooding Investigation Team does not review all external sewer flooding incidents. However, Scottish Water has continued to prioritise

and undertake EFOS investigations providing more customers with our assessments of risk classifications for their properties.

Lines B3a.11-B3a.21 remain graded at B4 as per AR23. The data informing these reporting lines is held on a non-corporate, fully auditable database. The confidence grade given for these lines is lower than the confidence grade given to the equivalent lines in the B3 table as approximately 10%-15% of the External At-Risk Register data is of poor quality (inherited from Scottish Water predecessor organisations).

4.4.2 AR24 Data Improvement Programmes

Mitigations Programme

In AR24 the mitigations programme continued to mature, providing a consolidated robust dataset. Whilst some data improvement relating to external mitigation measures has occurred, the level of maturity is not sufficient to allow upgrade of confidence grade for these lines.

Salesforce/Microsoft Dynamics Location Count

There is a known issue with property/area counts for external sewer flooding incidents. Most external sewer flooding incidents are currently reporting as one property or area affected. We planned to resolve this during AR24 however we experienced a number of issues meaning work is still ongoing and we anticipate this will be resolved in AR25.

Automation of the Flooding Team investigation process

In AR24 a new procedure was developed to enable the delivery of our investigations process using the Microsoft Dynamics software as our workflow and data repository. This approach simplifies and enhances our data collation and ensures robustness, accuracy and ease of reporting.

Flooding Database Upgrade

In AR24 requirements gathering and optioneering were undertaken to identify a solution to replace the current provision for our flooding database, where we hold all flooding information regarding risk and impact for investigated properties and locations.

4.4.3 AR25 Data Improvement Programmes

The following improvements are planned during 2024-25:

Automation of the Flooding Team investigation process

In AR24 a new procedure was developed to enable the delivery of our investigations process using the Microsoft Dynamics software as our workflow and data repository. This approach simplifies and enhances our data collation and ensures robustness, accuracy and ease of reporting.

In AR25 the procedure will be rolled out and should provide the following benefits:

- Increased use of corporate system
- Fully auditable process
- Controlled data entry
- Enhanced data collation
- Enhanced reporting capabilities
- Increase of confidence grading for lines **B3a.1-B3a.5**

Flooding Database Upgrade

In AR24 requirements gathering and optioneering was undertaken to identify a solution to replace our current provision for our flooding database, where we hold all flooding information regarding risk and impact for investigated properties and locations.

In AR25 we will confirm the preferred solution, develop a project to implement this solution and roll out this new functionality. An improved solution will enrich our ability to collate information, increase the robustness and accuracy of our data and should allow us to increase the confidence of **Lines B3a.11-B3a.21** (excluding **Lines B3a.15 and B3a.16**).

Salesforce/Microsoft Dynamics Location Count

There is a known issue with property/area counts for external sewer flooding incidents. Most external sewer flooding incidents are currently reporting as one property or area affected. We planned to resolve this during AR24. However, we experienced a number of issues meaning work is still ongoing and we now anticipate this will be resolved in AR25.

Mitigations Programme

Currently the reported figure for areas protected by temporary measures represents areas on the External ARR with any temporary measures, including those with temporary measures which only protect against internal sewer flooding outwith our Internal ARR.

We prioritised accuracy and detail of the current mitigation inventory within AR24 and our intention in AR25 is to separate flood risk reduced by temporary measures into internal only and external [curtilage] only categories. This should allow us to increase the confidence of **Lines B3a.15 and B3a.16**.

In addition, we anticipate development of a decision matrix for provision of external mitigation measures, based on risk level and impact of external sewer flooding incidents on our customers. This is to increase the consistency and speed of decision-making.

4.4.4 Assumptions used for forecast data

Forecasting has been provided for all lines in Table B3a.

Forecasting for **Lines B3a.1-B3a.10** is based on 3-year and 5-year average incident and area data related to sewer flooding.

Forecasting for **Lines B3a.11-B3a.21** is based on the current At-Risk Register position and predicted additions and removals from the At-Risk Register. These predicted additions and removals are based on historic addition trends and the status of the Flooding Programme.

Confidence grades for forecast **Lines B3a.1-B3a.21** have been set at C4. As above, the forecast numbers are based on average/historic data as well as current status data. A ‘C’ grading is appropriate given the estimated nature of the forecast. It is recognised that most lines are highly weather dependent.

5 Table B4: Customer service

5.1 Overview

Table B4 provides information on written complaints and telephone contacts received by Scottish Water. Scottish Water reports an increase in the number of formal complaints received in AR24 i.e., 539 compared to 476 in AR23. The increase in complaints is partly due to a rise in complaints with a compensation element to them, primarily in Wastewater Service and, to a lesser extent, in Water Supply Service types. Infrastructure complaints have also increased this year mainly due to issues with damaged or missing covers for Scottish Water apparatus e.g., sewer access and Toby covers.

In AR24 telephone contacts continued the decreasing trend from AR23, with 290,325 compared to 320,907. Volumes were steady through the year with spikes in June 2023 and January 2024 due to operational issues.

In June 2023 we had increased Wastewater contacts between 19 and 21 June, and a Water Supply issue between 24 and 25 June in Greenock (PA16), Skelmorlie (PA17) and Wemyss Bay (PA18), which resulted in around 1500 customer contacts.

In January 2024 we had an issue in Greenock (PA15, PA16), Skelmorlie (PA17), Wemyss Bay (PA18) and Gourock (PA19), due to a burst 18-inch strategic main resulting in interruption to water supplies. An Incident Team was formed as the burst initially impacted approximately 12,000 properties and Teleperformance (an external call handler) was engaged to manage the high volume of customer contacts. A back-feed was introduced to restore supply for around 3,000 customers and tankers were used to maintain supply for as many customers as possible whilst repairs took place. Bottled water distribution points were set up for customers to collect an alternative supply whilst repairs took place. Repairs to the 18-inch main were completed in the early hours of the following morning, and water supplies for all customers were then gradually restored throughout the day due to the size of the network and area affected. This incident resulted in around 1,600 customer contacts.

Following a drop in temperatures between 18 and 22 January 2024, we started to receive a higher level of contacts reporting interruptions to water supplies. This was escalated with customers being provided advice on what to do if experiencing frozen pipes, and Teleperformance was engaged to manage volumes of customer contacts.

Following a subsequent rise in temperature there was an increase in customer-reported water risings both externally and internally. Customer contacts gradually returned to business-as-usual levels from 23 January onwards as temperatures continued to rise.

Customers across Scotland also experienced a loss of water supply on 21 and 22 January due to nationwide power outages during Storm Isha. This caused outages at water treatment works, water pumps, and other infrastructure on the water network.

5.2 Performance Trends

B4.1 Formal complaints (number of written complaints received)

There was an increase in the number of formal complaints received during the AR24 period i.e. 539 compared to 476 in AR23 - an increase of 13.24%.

In AR24 we saw an increase in the volume of compensation complaints compared to AR23 with the number of complaints also increasing slightly as shown in Figure 12.

Figure 12: Formal Complaints by Compensation Complaint or Complaint AR23 v AR24

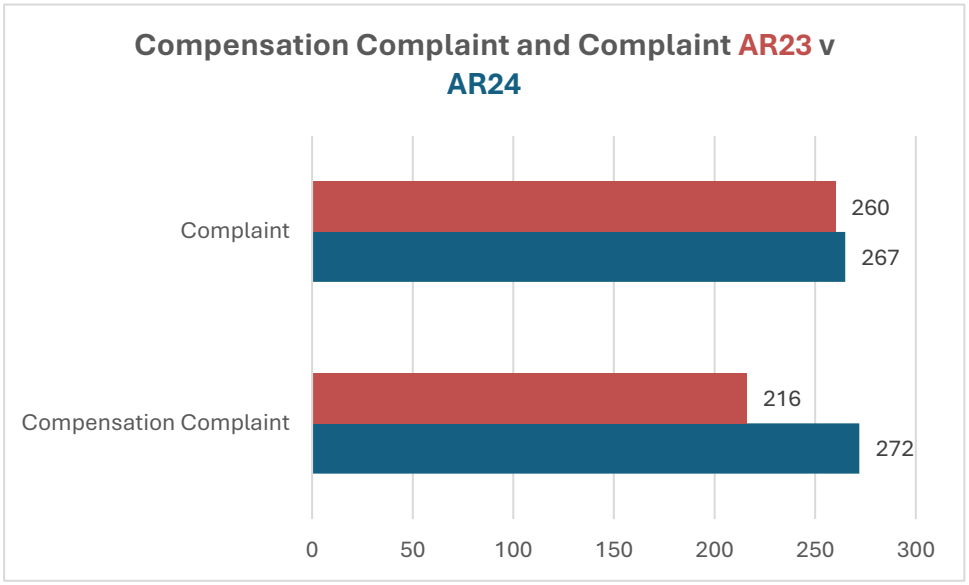


Table 19 below shows the change in volume and percentage across the service areas this year:

Table 19: Change in volume and percentage of formal complaints across service types for the AR24 period.

Service Type	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	Volume change AR23 AR24	% Chan AR23 AR24
Byelaws	0	0	0	0	0	0	0	0	0	0	1	0	1.	1.	100.00%
CMA Data Amendment	0	0	0	1	0	0	0	0	0	0	0	0	1.	-2.	-66.67%
Connection	0	0	0	0	0	0	1	0	1	0	0	0	2.	-4.	-66.67%
Developer Connection	0	0	0	0	0	0	0	0	0	0	0	0	0.	-2.	-100.00%
Disconnections Connections	0	0	0	0	0	0	0	0	0	0	0	0	0.	-1.	-100.00%
Enquiry	0	0	0	0	0	0	0	0	0	0	0	0	0.	-1.	-100.00%
Infrastructure	5	12	6	7	11	8	8	6	8	4	5	7	87.	21.	31.82%
Metering	0	0	2	1	0	0	0	0	0	0	0	0	3.	-5.	-62.50%
Planned	3	4	0	3	2	1	4	2	1	4	8	8	40.	22.	122.22%

Service Type	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	Volume change AR23 AR24	% Chan AR23 AR24
Works/ Maintenance															
Trade Effluent	0	0	0	0	0	0	1	0	0	0	0	0	1.	1.	100.00%
Waste Water	15	13	13	26	11	9	31	11	13	20	13	19	194	27.	16.17%
Water Quality	1	1	1	0	1	1	2	2	2	0	1	1	13.	7.	116.67%
Water Supply	9	16	26	16	15	20	12	19	14	16	18	14	195	-2.	-1.02%
Wholesale Allowance	0	0	0	0	0	0	0	0	0	1	0	1	2.	1.	100.00%
Total: Apr 23 - M 24	33	46	48	54	40	39	59	40	39	45	46	50	539	61.	12.82%

The top three Service Types of complaints in AR23 remained the top three in AR24 i.e., Infrastructure, Wastewater and Water Supply. Infrastructure and Wastewater increased, with Water Supply decreasing slightly during AR24 - as shown in Table 20.

Table 20: Top 3 service types for complaints across the AR24 period.

Service Type	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	Volume Change AR23 AR24	% Change AR23 AR24
Infrastructure	5	12	6	7	11	8	8	6	8	4	5	7	87	21	31.82
Waste Water	15	13	13	26	11	9	31	11	13	20	13	19	194	27	16.17
Water Supply	9	16	26	16	15	20	12	19	14	16	18	14	195	-2	-1.02

The main Service Reason for each of the top three Service Types complaints changes from AR23 to AR24. Details of these changes are noted below:

Infrastructure – as per Table 20 above there was an increase of 21 complaints in AR24 and the main changes between AR23 and AR24 in the category of "Service Reason" for the complaint were: an increase of 16 complaints relating to "Cover/Ironwork Fault/Fix"; and an increase of six complaints relating to "Maintenance Work".

Wastewater – as per Table 20 above, there was an increase of 27 complaints in AR24 and the main changes between AR23 and AR24 in the category of "Service Reason" for the complaint were: an increase of 23 complaints relating to "Choke/Blockage" and an increase of five complaints relating to "Septic Tank". Overall, we saw the number of compensation complaints increase by 29.

Water Supply – as per Table 20 above, there was a reduction of two complaints and the main changes between AR23 and AR24 in the category of "Service Reason" for the complaints were a decrease of four complaints relating to "No Water", and an increase of five complaints relating to

“Pressure/Intermittent Supply”. Overall, we saw the number of compensation complaints increase by ten.

B4.2 Regulator upheld complaints

Scottish Water reports zero regulator upheld complaints in AR24. This is the same as in AR23.

B4.3 No. dealt with within five working days

In AR24 all 539 complaints were dealt with within five working days. This mirrors the AR23 performance of all 476 complaints which were also dealt with within five working days.

5.2.1 Lines B4.4-B4.11 - Telephone Contacts

AR24 saw lower levels of telephone calls than during AR23. A communications team was created to proactively update customers about incidents in their area prior to them making contacting with Scottish Water. We are now sending customers an SMS message to inform them of when we will arrive on-site. Customers can also track our whereabouts and see that we are on our way, which cuts the number of calls.

B4.4 Total calls received on customer contact lines

We received 290,325 calls during the AR24 period compared to 320,907 calls in AR23. This represents a drop of 30,582 calls, or an overall 9.53% decrease against AR23. Figure 13 below shows the calls received on customer contact telephone lines broken down by month. Call volumes are less than for AR23 in ten months of the year. Only May and June 2023 have more. Unlike AR23, when there was a significant spike in December 2022, AR24 has been more consistent month to month. Figure 14 below shows the volume of lead renewal calls received in AR24 by month. This saw a steady increase from October to December 2023 and significantly increased volumes in January to March 2024. The change in volume was due to landlords requesting lead testing due to changes in the repairing standard statutory guidance for private landlords. This required rented properties to be free of lead by 1 March 2024.

Figure 13: Total calls received on customer contact lines by month for AR23 and AR24.

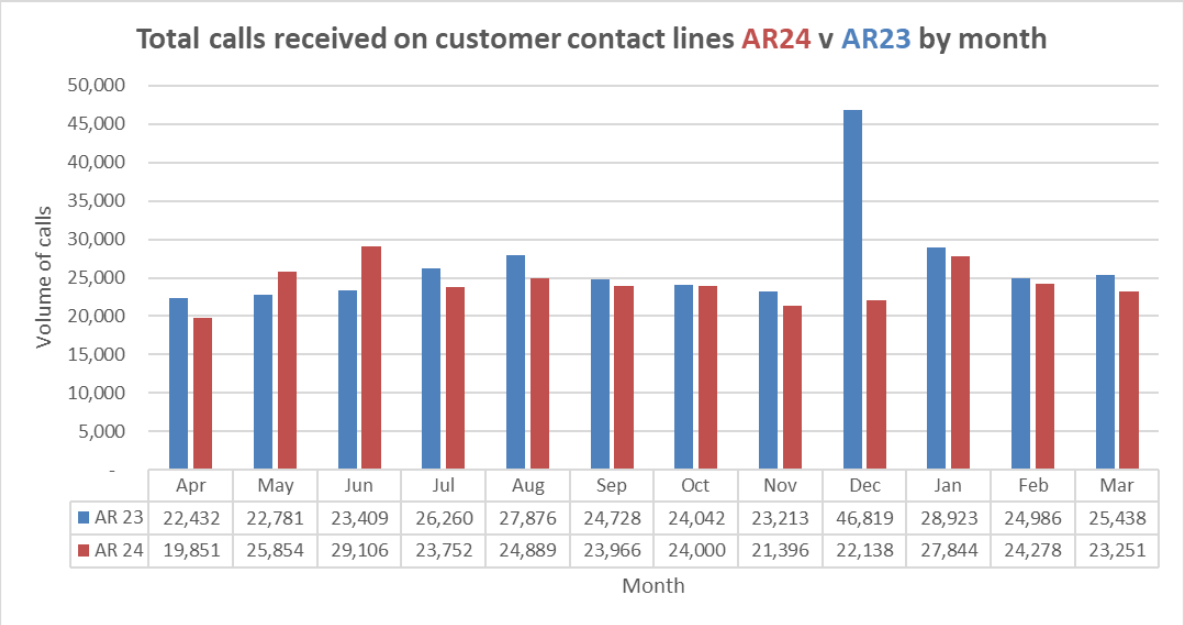
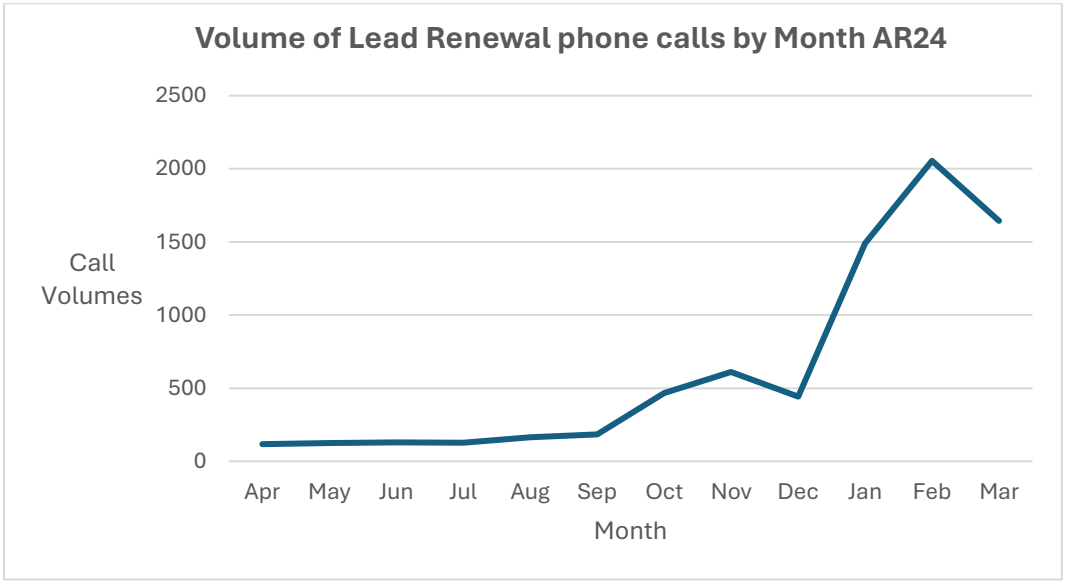


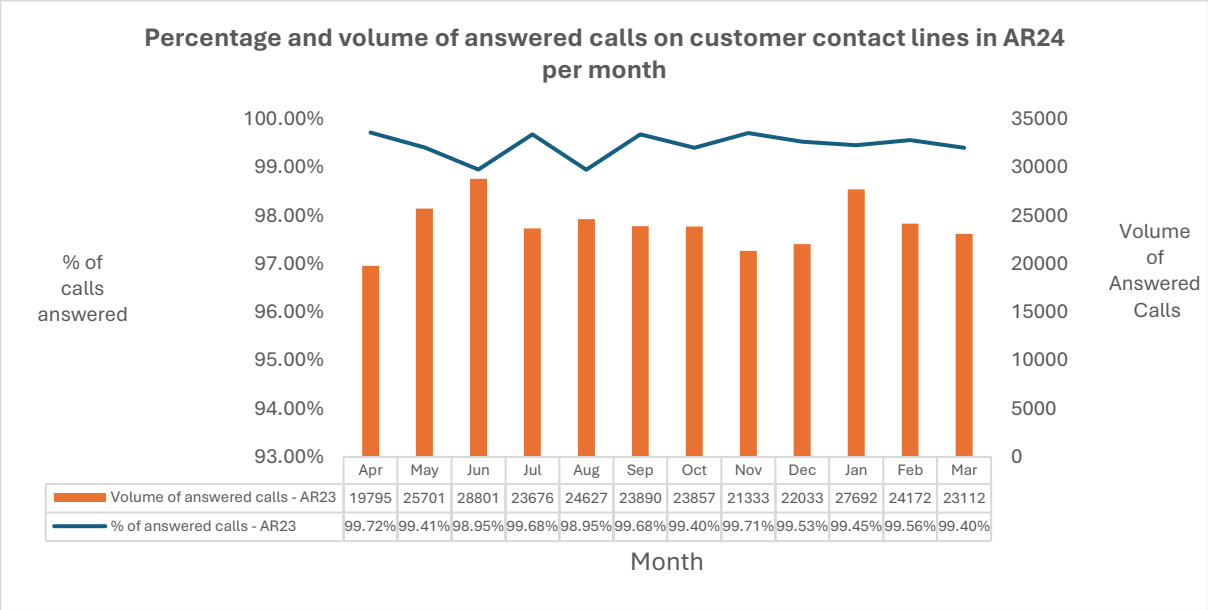
Figure 14: **Volume of Lead Renewal phone calls by month for AR24.**



B4.5 Total calls answered on customer contact lines

We answered 288,689 calls (99.44%) in AR24 compared to 316,624 (98.66%) in AR23. As with **Line B4.4** performance has remained constant through the year as shown in Figure 15.

Figure 15: Percent and volume of answered calls on customer contact lines per month for AR24.



B4.6 Total calls answered within 30 seconds on customer contact lines

In the AR24 period 272,736 calls (93.94%) were answered within 30 seconds compared to 273,906 calls (85.35%) in AR23.

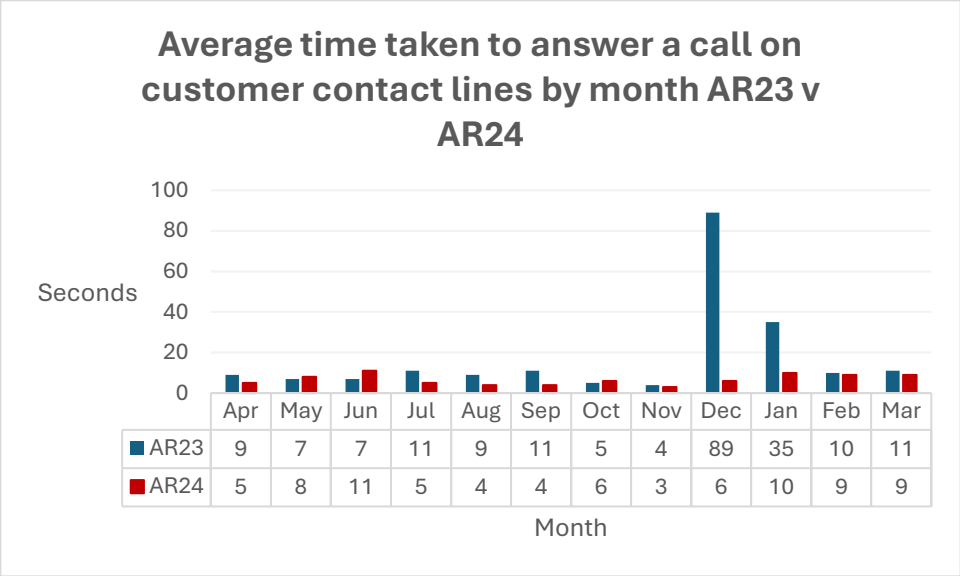
B4.7 Total calls answered in more than 30 seconds on customer contact lines

In AR24 15,953 calls answered after more than 30 seconds (5.49%) compared to 42,718 (13.31%) in AR23.

B4.8 Average time taken to answer a call on customer contact lines

In AR24 the average time taken to answer a call to our customer contact line was 7 seconds, compared to 20 seconds in AR23. Figure 16 below shows the average time, by month, and demonstrates a constant performance each month during AR24.

Figure 16: Average time taken (seconds) to answer calls on customer contact lines per month for AR23 v AR24.



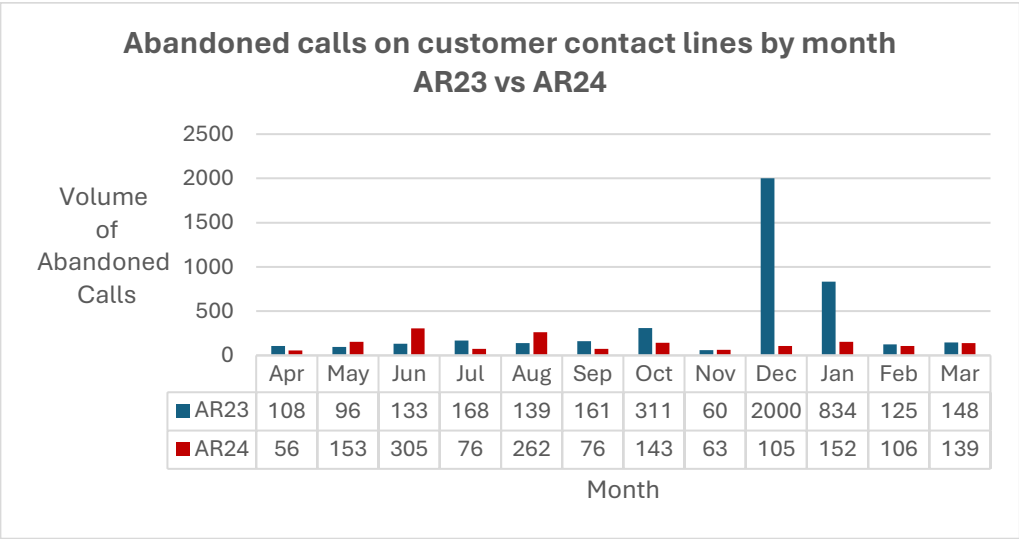
B4.9 All lines busy

In AR24 there were 2 instances of all lines busy compared to 0 in AR23. Both instances of All lines busy occurred during times when call volumes were low and are technical issues rather than our capacity to handle calls. We will continue to monitor this and engage with our call service provider going forward.

B4.10 Total of abandoned calls on customer contact lines

The total of abandoned calls to customer contact lines in AR24 was 1,636, compared to 4,283 calls in AR23 (61.80% reduction). Figure 17 below shows the split of these contacts over AR24 and AR23 and highlights the consistent performance in AR24. Unlike AR23 December and January experienced no major spikes in performance, which explains the reduction as the rest of AR24 is on par with AR23.

Figure 17: **Abandoned calls on customer contact lines by month for AR23 v AR24.**



B4.11 Total Telephone complaints

In AR24 the total number of telephone contacts recorded at initial conversation as a complaint/fault was 101,662 compared with 94,251 in AR23. Looking at the four main service areas the main trends are:

Wastewater and Water Quality contacts decreased by 1146 during AR24 and by 200 contacts during AR23. This represents a decrease of 4.14% and 2.15%, respectively.

Water Supply contacts increased by 1554 during AR24 (3.56%) in part due to storms. Infrastructure (missing/damaged ironwork) saw a significant increase of 6430 (48.78%) contacts from AR23. This information is shown in Table 21 below. As mentioned in **Line B4.4** the increase in Infrastructure is due to Landlord contacts for lead pipe testing.

Table 21: 4 main service areas of telephone complaints across the AR24 period.

Service	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	Diff AR23
Infrastructure	1152	1246	1268	1117	1281	1153	1458	1653	1181	2471	3052	2580	19612	6430
Waste Water	2301	2371	2355	2138	1961	1943	2093	1888	2302	2459	2314	2420	26545	-1146
Water Quality	612	869	788	966	1109	998	750	563	576	581	652	641	9105	-200
Water Supply	2921	4339	5626	4040	4057	3626	3295	3091	3797	5064	2727	2598	45181	1554

5.3 Data

5.3.1 Data sources and confidence grades

In this reporting year data for customer contacts and written complaints is taken from our Customer Record Management MS *Dynamics*. Telephone statistics come direct from calls logged on Scottish Water's telephony management system, *Puzzel.*

There were no changes to confidence grades from AR23.

5.3.2 Data improvement programmes

There were no data improvement programmes this year.

5.3.3 Assumptions used for forecast data

The forecast for **Line B4.1** is a roll up of the forecast for **Lines B5.7, B6.5 and B6.31**.

The forecast for **Line B4.4** is a combination of the forecast for **Lines B4.5 and B4.10**.

The forecast for **Line B4.5** is a combination of the forecast for **Lines B4.6 and B4.7**.

The forecast ranges for **Lines B4.9 and B4.10** are based on the last 5 years of data, with **Lines B4.6, B4.7, B4.8 and B4.11** based on data from the last 4 years; with the highest volume being the top of the range and the lowest volume being the bottom.

6 Table B5: Household customer service

6.1 Overview

The purpose of the Household Customer Experience Measure (hCEM) is to capture service levels delivered to household customers and provide a robust means of measuring the quality of, and tracking changes in, the service experience provided to household customers. Performances against a number of quantitative and qualitative indicators are combined to produce an Annual hCEM Score out of 100.

6.2 Performance Trends

6.2.1 Lines B5.1-B5.8 - Household CEM

Line B5.1 hCEM overall score

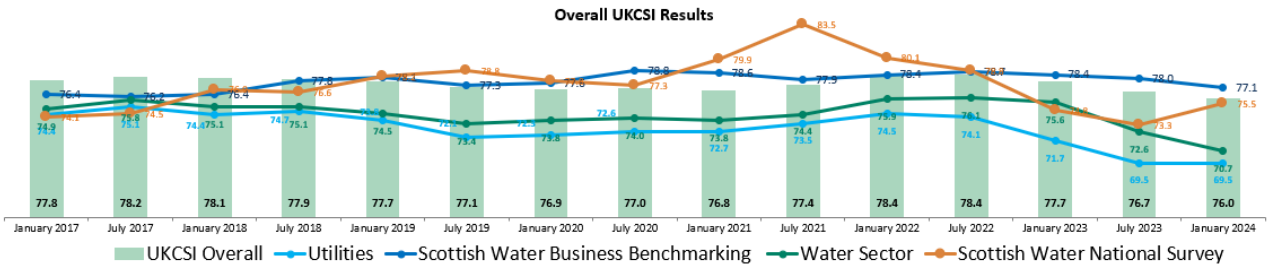
The hCEM overall score increased from 86.45 in AR23 to 86.63 in AR24, an increase of 0.18.

The improvement was driven on the Quantitative side of the measure with the majority of elements performing better or remaining on par from AR23. Reductions in Service Issue Contacts and Escalations had a positive impact and improved the overall quantitative component. This was slightly offset by an increase in written complaints.

On the qualitative side of the measure only the Customer Experience Survey improved from AR23. Both perception surveys i.e. “No Experience No Contact” and “Experience No Contact” had a difficult year. This is a common theme in the water sector with the Institute of Customer Service UKCSI results for the Water sector at the lowest level this year. However Scottish Water was top in this sector. Figure 18 below demonstrates this performance. The highest ever levels of negative buzz (seeing/hearing something negative about Scottish Water) were also recorded, with customers citing service issues, charge increases, industrial action but also media coverage of Combined Sewer Overflow – including coverage related to England and Wales. Negative customer perception is a common theme across the wider water industry.

In response to this, various steering groups have been created and an awareness campaign was recently launched with the aim of increasing public awareness of what we do, and that we are a public body rather than a private company.

Figure 18: UKCSI results January 2017 to January 2014



In our forecasting for AR25 we have selected a mid-point from our predicted range for each of the individual hCEM components (as reported in other B5 lines below). However, for forecasting the Overall Score we have calculated that score using the individual mid-point values forecast for each component.

Line B5.2 Customer Experience Survey

Customer Experience Survey (CES) has increased from 92.41% in AR23 to 93.87% in AR24, an increase of 1.46%, as shown in B5 Table 22. The number of surveys returned increased from 16,052 in AR23 to 16,534 in AR24. This has increased due to more surveys being sent out in AR24, with response rates similar to AR23. There was an increase of 1180 additional surveys for Infrastructure cases which is mainly due to new lead pipe legislation for landlords. There was a higher proportion of surveys in the 5-7 scores (satisfied) bracket which had the effect of driving up the satisfaction score.

Table 22: Customer experience survey scores for AR23 and AR24.

CES Survey	AR24	% of total	AR23	% of total	Change	% Change
1-4 Scores	1013	6.13%	1218	7.59%	-205	-1.46%
5-7 Scores	15521	93.87%	14834	92.41%	687	1.46%
Total Returns	16534	100.00%	16052	100.00%	482	

The graph in Figure 19 shows the in-month CES score between AR22 and AR24 which highlights a summer/autumn dip. This year we ran some internal campaigns in the build up to that period and throughout Summer/Autumn to keep the focus on doing the basics right and to maintain the levels of service over this period. This has had a positive impact and removed the usual dip.

Figure 19: Customer experience survey in month scores for AR22 to AR24.

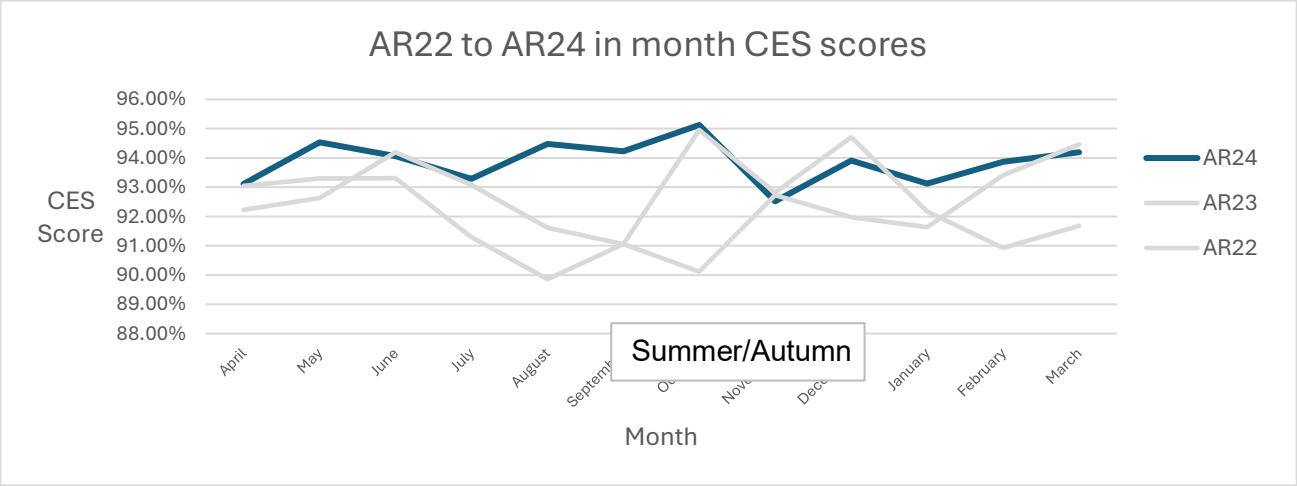


Table 23 below looks at the three largest elements of the survey - Septic Tanks HH (Household), Water Supply and Wastewater. There was improvement in all three elements. As mentioned previously this was due to our internal campaigns and back to basics approach which addressed the usual Summer/Autumn dip.

Table 23: 3 largest areas of customer experience survey for AR23 and AR24.

Service area	% of return volume AR24	AR24 score	AR23 score	Difference between AR24 - AR23
Septic Tanks HH	25.88%	96.24%	94.98%	1.26%
Waste Water	39.00%	93.46%	92.32%	1.14%
Water Supply	27.84%	93.87%	92.18%	1.69%

Table 24 shows the Septic Tanks HH and CES Performance since AR20. The Septic Tanks HH individual score is above the CES score in every AR year in the table.

Table 24: Septic Tanks HH performance since AR20.

	Septic tanks HH	CES	Difference Between Septic tanks and CES
AR24	96.24%	93.87%	2.37%
AR23	94.98%	92.41%	2.57%

AR22	94.09%	92.39%	1.70%
AR21	96.53%	94.09%	2.44%
AR20	94.33%	93.31%	1.02%

Table 25 shows the volume of Wastewater returns and % of those returns against all the returns. Wastewater has always made up the largest % of returns, so this year's split is following the usual trend.

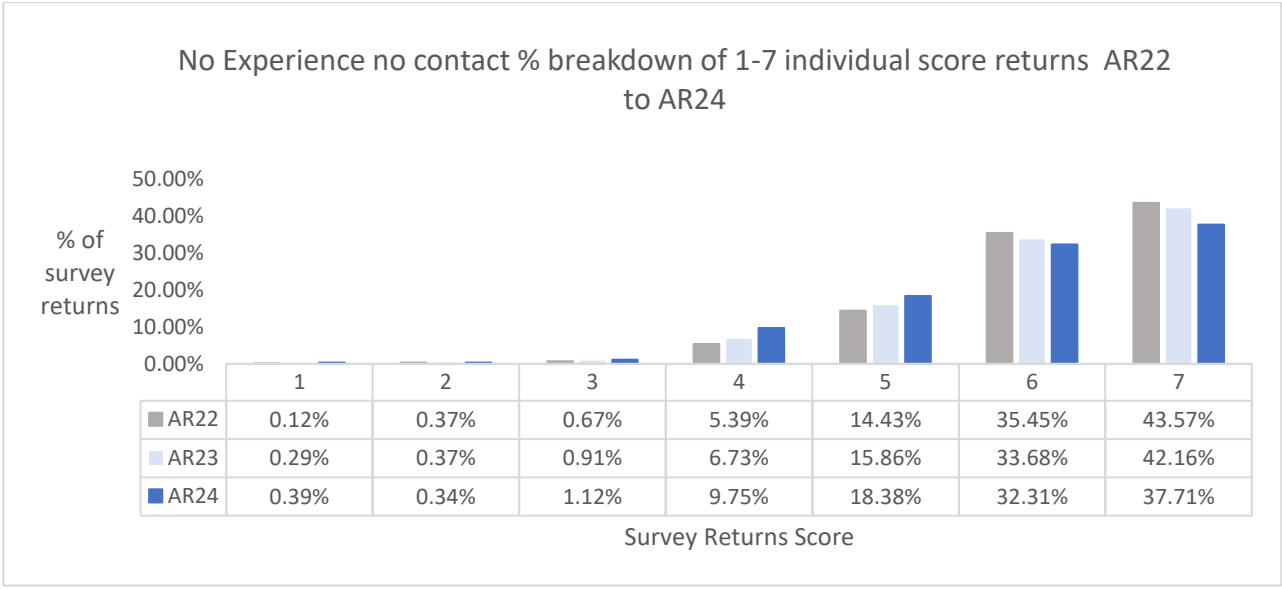
Table 25: Number of wastewater returns and percent of total returns.

	Wastewater Returns	% of Wastewater Return of all returns
AR24	6448	39.00%
AR23	6782	42.25%
AR22	6426	42.33%
AR21	7872	51.85%
AR20	7650	50.39%

Line B5.3 No experience no contact

"No Experience No Contact" decreased from 91.70% in AR23 to 88.39% in AR24, a decrease of 3.31%. Examination of the survey returns shows there is movement from the Very Satisfied and Satisfied scores of 7 and 6, to the Less Satisfied score of 5 and the Neither Dissatisfied nor Satisfied score of 4. This is represented in Figure 20.

Figure 20: Percent breakdown of "No experience no contact" 1-7 individual score returns for AR22 to AR24.

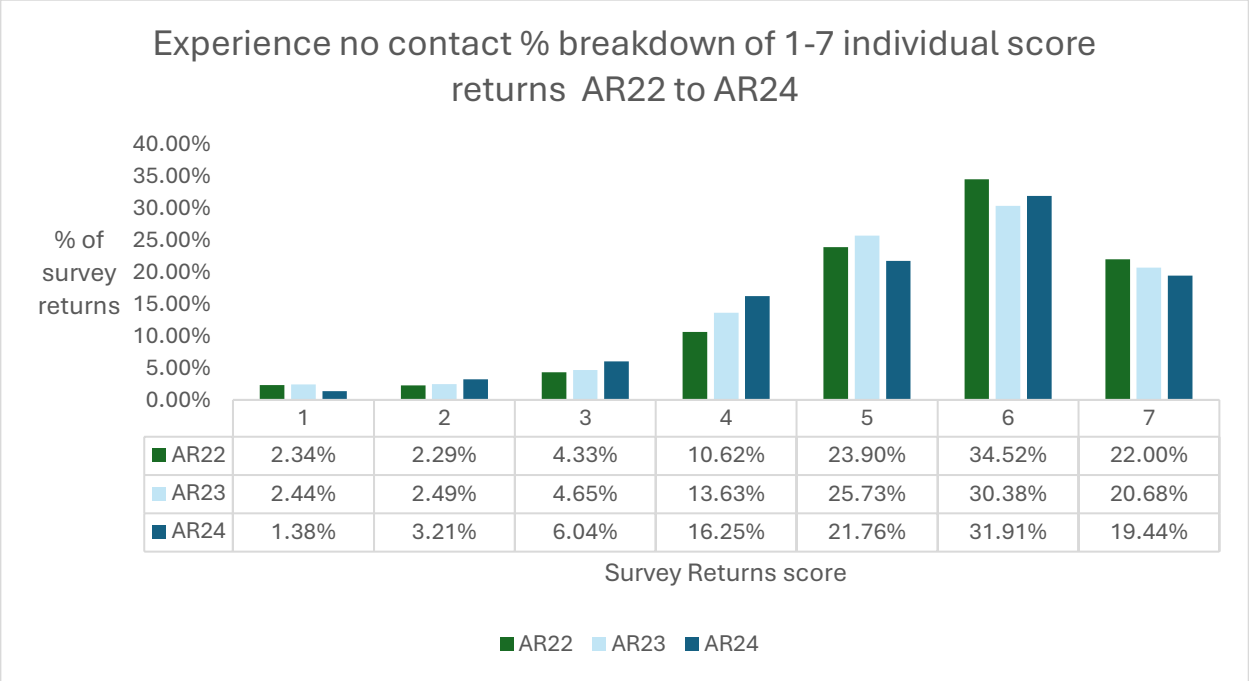


	1	2	3	4	5	6	7
AR22	0.12%	0.37%	0.67%	5.39%	14.43%	35.45%	43.57%
AR23	0.29%	0.37%	0.91%	6.73%	15.86%	33.68%	42.16%
AR24	0.39%	0.34%	1.12%	9.75%	18.38%	32.31%	37.71%

Line B5.4 Experience no contact

"Experience No Contact" decreased from 76.79% in AR23 to 73.11% in AR24, a decrease of 3.68%. When looking at the scoring of the survey returns, there is a movement from the Very Satisfied and Less Satisfied scores of 7 and 5, to the Satisfied score of 6 and the Neither Dissatisfied nor Satisfied score of 4. This is represented in Figure 21.

Figure 21: Percent breakdown of "Experience no contact" 1-7 individual score returns for AR22 to AR24.



	1	2	3	4	5	6	7
AR22	2.34%	2.29%	4.33%	10.62%	23.90%	34.52%	22.00%
AR23	2.44%	2.49%	4.65%	13.63%	25.73%	30.38%	20.68%
AR24	1.38%	3.21%	6.04%	16.25%	21.76%	31.91%	19.44%

When looking at the score distribution, the decreasing overall satisfaction is mainly driven by ambivalence i.e. customers scoring a 4. This is a trend seen across all customer segments in the survey, not just "Experience No Contact". There are three consistent themes mentioned when customers are asked why they scored a 4:

- **Genuine Ambivalence** - water and wastewater services not being top of mind
- **Charges** - related to either the increase in charges, or the charging mechanism itself
- **Water quality** - customers highlighting mainly intermittent issues with taste and odour

Line B5.5 Escalations

"Escalations" decreased from 559 in AR23 to 434 in AR24, a decrease of 125. This decrease occurred across the three main areas Water Supply, Wastewater and Infrastructure (missing/damaged ironwork), as shown in Table 26 below. In AR24 there has been a focus on directing customer contacts to the correct contact for resolution, which has helped reduce escalations. We have also improved our customer support roles on site for customers.

Table 26: Top 3 volume areas of hCEM escalations across the AR24 period.

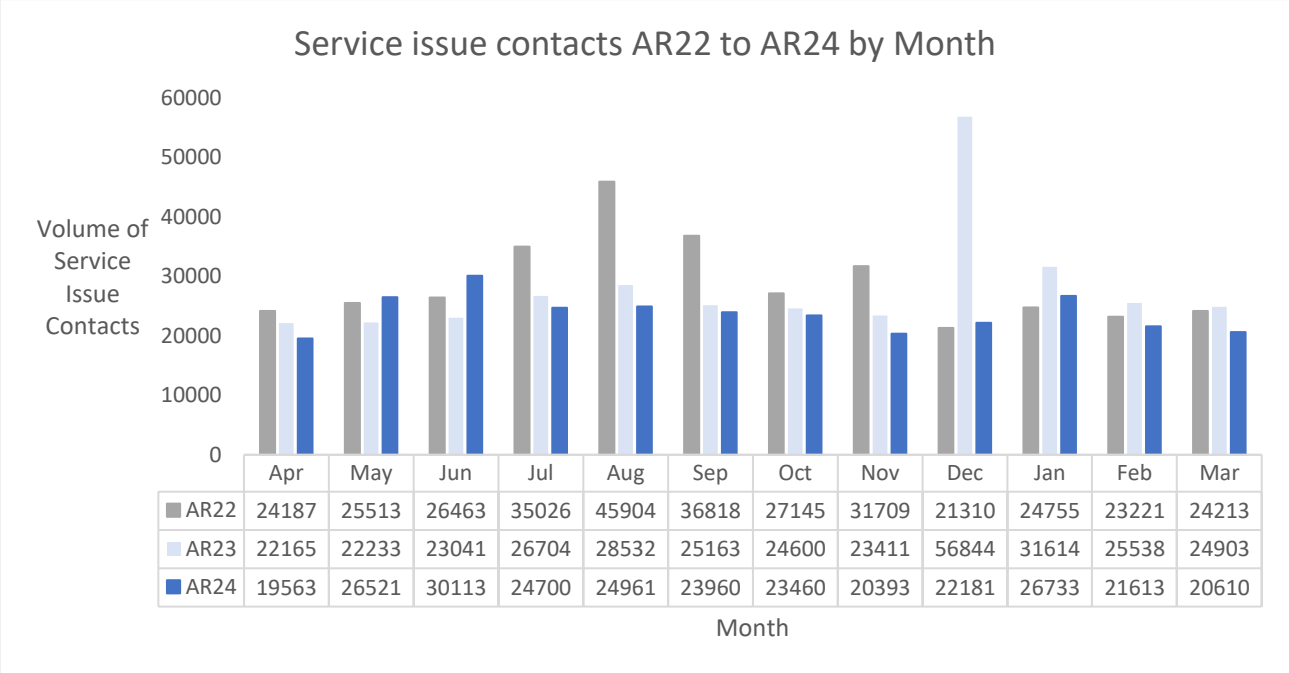
AR24	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	YTD	Volume change AR23 AR24	% Chan AR23 AR24
Infrastructure	16	13	8	4	9	4	5	7	7	4	4	12	93	-19	-16.96%
Waste Water	13	4	10	12	9	5	9	8	8	5	6	15	104	-47	-31.13%
Water Supply	12	8	17	12	9	13	4	11	11	6	3	8	114	-41	-26.45%
Total	50	30	47	41	36	31	36	45	36	21	20	41	434	-125	-22.36%

Line B5.6 Service issue contacts

"Service Issue Contacts" decreased from 334,748 in AR23 to 284,808 in AR24, a decrease of 49,940, or 14.92%.

In AR24 customers continue to use "Telephone" as the main way of contacting Scottish Water to report a fault. As with Line B4.4 there is a trend in "Service Issue Contacts" with AR24 having less contacts than AR23 for 10 months of the year - only May and June 2023 have more. Figure 22 shows the monthly volumes for AR22 to AR24. Volumes have been constant this year without any significant increase in any individual month, compared to AR22 and AR23. During AR24 a communications team was created to proactively update customers about incidents in their area prior to them making contacting with Scottish Water. We are now sending customers an SMS message to inform them of when we will arrive on-site. Customers can also track our whereabouts and see that we are on our way, which cuts the number of calls.

Figure 22: Service issue contacts by month for AR22 to AR24.



Line B5.7 Formal complaints

"Formal Complaints" have increased from 307 in AR23 to 399 in AR24, an increase of 92, or 29.96%. Table 27 below shows the volume and % change from AR23 to AR24 for the top three areas of complaints, Wastewater, Water Supply and Infrastructure (missing or faulty cover).

Table 27: Top 3 areas for formal complaints across the AR24 period.

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	Volume Change AR23 AR24	% Chan AR23 AR24
Infrastructure	4	12	6	7	10	7	8	3	8	4	5	7	81.	22.	37.29%
Waste Water	10	11	9	16	9	6	23	10	11	16	10	16	147.	23.	18.55%
Water Supply	3	12	21	7	10	15	8	12	10	8	10	10	126.	20.	18.87%

The main Service Reasons for each of the top three Service Types complaints changes from AR23 to AR24 are noted below:

Infrastructure – the main change between AR23 and AR24 in the "Service Reason for the Complaint" was an increase of fourteen complaints relating to 'Cover/Ironwork Fault/Fix' and an increase of six complaints relating to 'Maintenance Work', making a total increase of twenty-two complaints.

Wastewater – out of the increase of twenty-three complaints in the Table 27 above, the main changes between AR23 and AR23 in the "Service Reason for the Complaint" was an increase of seventeen complaints relating to 'Choke / Blockage'. There was also an increase of twenty-two compensation complaints.

Water Supply – out of the increase of twenty complaints in the above Table 27 above, the main change between AR23 and AR24 in the "Service Reason for the Complaint" was an increase of thirteen complaints relating to 'Burst/Leak' and an increase of eight complaints relating to 'Pressure/ Intermittent Supply'. There was also an increase of 20 compensation complaints.

Overall, we faced a challenging year with the elements with extreme rainfall events and cold and thaw conditions impacting on service levels and subsequent complaints.

Compensation claims have increased, some of which may be driven by the ongoing challenging financial conditions and a number of these were refuted as Scottish Water was not liable.

We intend to improvement our website to provide more details around compensation to allow customers to understand the circumstances in which Scottish Water makes payments and where we do not.

Line B5.8 Regulatory upheld complaints

There were zero regulatory upheld complaints in AR24. This mirrors our performance from AR23.

Line B5.9 - Customer Satisfaction Survey

This was a call handling survey which we no longer measure and have no equivalent for.

However, when this was last reported the figure was 4.67.

6.2.2 Lines B5.10-B5.16 - Assessed Customer Service

Scottish Water stopped capturing “Assessed Customer Service” performance for OPA in April 2021 and, therefore, the information is no longer available. As our score had not changed since SR15, we have to assume that performance was maintained. The “Assessed Customer Service” score is now used to calculate the SR15 OPA for comparative purposes. A fixed score of 37.5 is used for the calculation as this was consistently achieved throughout the 2015-2021 period. We suggest that these lines are deleted in Annual Returns. However, for completeness, we have repeated our most recent commentary (pre-SR21) for the component lines below.

Line B5.10 Revenue and Debt Collection

Scottish Water’s performance in relation to revenue and debt collection from domestic customers is dependent on the performance of the 32 Local Authorities (LAs) who manage these customer relationships with us. Scottish Water also manages a few metered domestic customers.

It is not practical to measure the performance of each of the 32 LAs. The assessment previously included a sample of five LAs plus our metered customer revenue and debt collection facilities. The sample LAs chosen were Clackmannanshire, Glasgow City, Scottish Borders, Shetland Islands and South Ayrshire. The Water Industry Commission for Scotland (WICS) had previously endorsed this approach following a trial assessment with What Works Scotland.

We have not altered this since WaterWatch Scotland (WWS) was disbanded on the 15 August 2011, as Scottish Water has little or no ability to alter the way in which LAs decide to bill customers. There is also a scoring element within this section which relates to the Watervoice Assessment of debt and revenue collections. As Watervoice no longer exists as an organisation, its views of the debt and revenue procedures of the 32 LAs cannot be ascertained.

Given that actual data is not available, and for the purposes of this submission, we have reported the previous year’s score of 2.

Line B5.11 Information to Customers

We do not send any unsolicited mail, apart from our leaflet explaining charges, to our customers. All required information is available on our website or available upon request. Our approach of not sending unsolicited mail is a positive feature, as this can be a cause for complaint for customers.

Given that actual data is not available, and for the purposes of this submission, we have reported the previous year’s score of 1.

Line B5.12 Telephone Contact Hours

We operate a 24/7 Customer Engagement Centre, and this has not changed since 2002. For the purposes of this submission, we have reported the previous year’s score of 1.

Line B5.13 Compensation Policy

We previously operated two compensation policies for customers, the Guaranteed Service Standards (GSS) and Price Promise compensation policy. From year commencing 2015/16 Scottish Water has combined these two policies and increased the standard value of what was the GSS compensation policy from £20, to £30. The new Service Standards policy remains

similar in structure to previous years.

Given that actual data for this line is not available, and for the purposes of this submission, we have reported the previous year's score of 1.

Line B5.14 Supply Pipe Repair Policy

We operate a supply pipe repair policy and publicise this to customers via our website. Specific data on this measure is no longer captured. We have therefore reported the previous year's score of 1.

Line B5.15 Service for Disabled and Elderly Customers

We use our website to let customers know about the additional services we provide to meet the needs of those in vulnerable circumstances. Scottish Water operates a Priority Services Register to prioritise these customers in the event of a loss of supply. Specific data on this measure is no longer captured. We have therefore reported the previous year's score of 1.

Line B5.16 Complaints Handling

The written complaints audit underwent changes after WaterWatch Scotland (WWS) was disbanded in August 2011. On an annual basis WWS audited 25 complaints selected randomly. In agreement with WICS, we then moved to a method of ongoing self-assessment for this measure, whereby 25 randomly selected complaints were audited under the same criteria on a quarterly basis. The average score recorded from the quarterly periods was used to calculate the performance for this section. Specific data on this measure is no longer captured. We have therefore reported the previous year's score of 1.

This audit no longer takes place as there is no ongoing OPA requirement.

6.2.3 Lines B5.17-B5.24 - Service Issue Contacts – household customers

Over the course of the year there were 284,808 (**Lines B5.6 and B5.24**) "Service Issue Contacts" received from household customers by our Customer Engagement Centre. This is a drop of almost 50,000 on the previous year.

The individual elements are outlined below.

Line B5.17 Phone Contacts

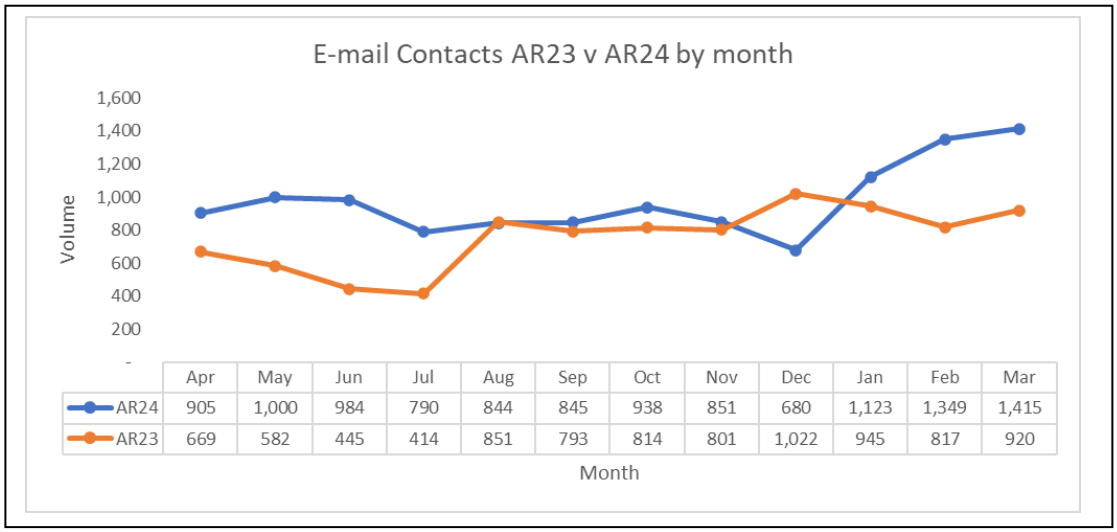
"Phone Contacts" decreased from 316,432 in AR23 to 285,819 during AR24 a decrease of 30,613, or 9.67%. This line follows the same trend as **Lines B4.4 and B5.6**.

Line B5.18 E-mail Contacts

"E-mail Contacts" increased from 9,073 AR23 to 11,724 during AR24 an increase of 2,651, or 29.22%.

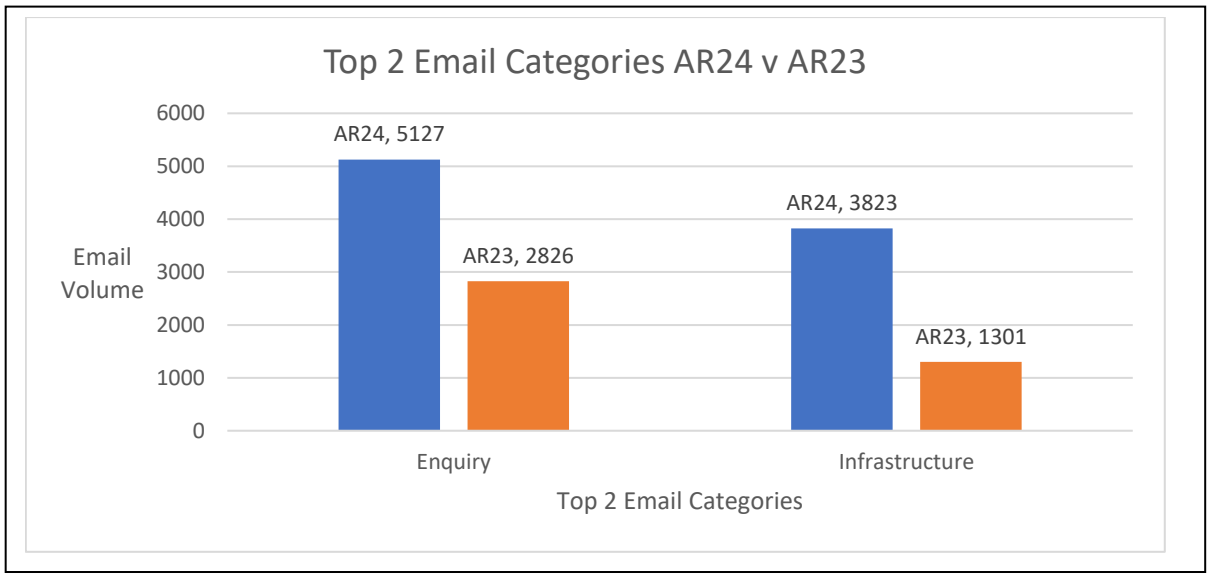
Figure 23 below shows the change in email volumes with the first 9 months of AR24 showing a similar trend to the last 3 months of AR23, with volumes in 790-945 range. As with phone calls there was a slight spike in May and June 2023. However, January, February and March 2024 saw a steady increase month on month in email contacts. For AR25 we plan to look at identifying any trends and track relationships between phone, email, and portal correspondence.

Figure 23: Email contacts per month for AR23 and AR24.



The top two reasons why customers contact us are shown in Figure 24. In the enquiry category, "General Enquiry" has increased by 1419 contacts since AR23, "Infrastructure" has seen an increase in "Lead Renewal" by 1772 from AR24, increasing from October 2023 and more rapidly in January to March 2024. This was due to requests from landlords for lead testing.

Figure 24: Top 2 Email Categories AR24 v AR23

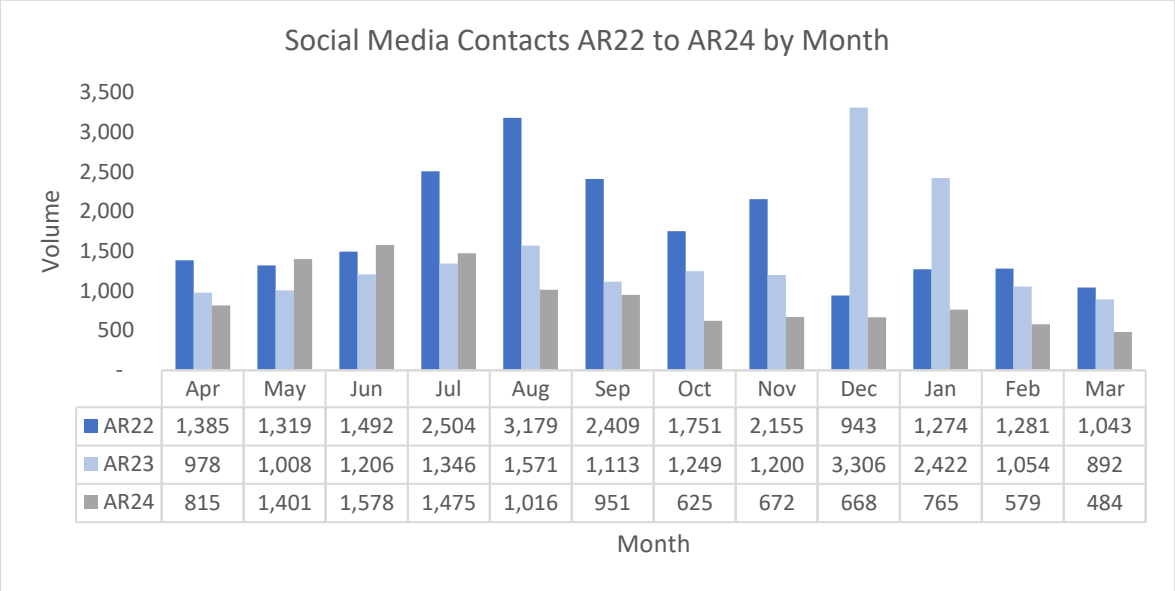


1.

Line B5.19 Social Media Contacts

"Social Media Contacts" decreased from 17,345 in AR23 to 11,029 during AR24, a decrease of 6,316 or 36.41%. This follows the same trend as AR22 to AR23 and is linked to the rebranding of Twitter to X. This saw users leave the platform. Figure 25 below shows volumes remain on par with previous years for the first four months of the year and then a steady decline following Twitter's change to X in July 2023.

Figure 25: Social media contacts per month for AR22 to AR24.

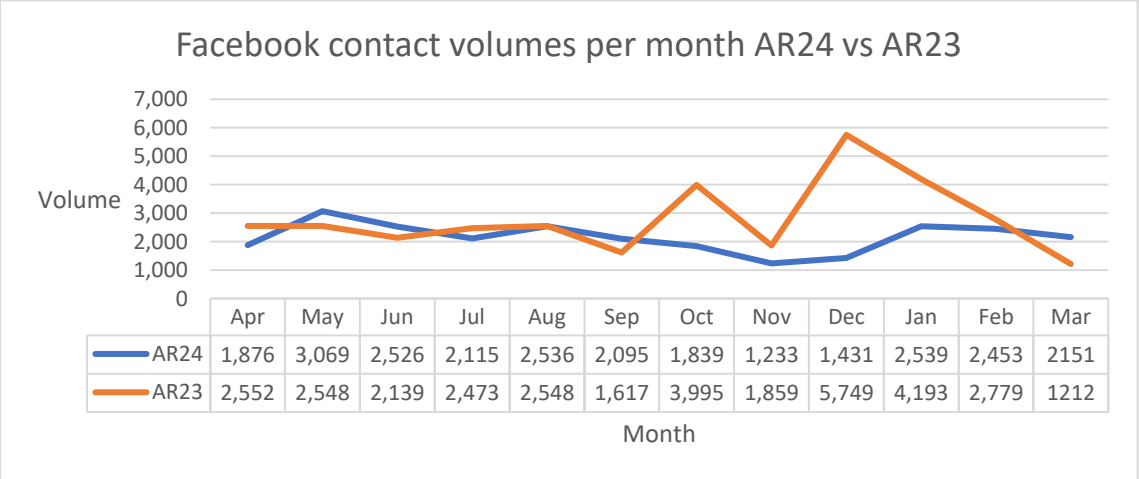


	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR22	1,385	1,319	1,492	2,504	3,179	2,409	1,751	2,155	943	1,274	1,281	1,043
AR23	978	1,008	1,206	1,346	1,571	1,113	1,249	1,200	3,306	2,422	1,054	892
AR24	815	1,401	1,578	1,475	1,016	951	625	672	668	765	579	484

Line B5.19a Facebook Contacts

"Facebook Contacts" is a new line in the annual return for AR24 There were 25,863 contacts in AR24 compared to 33,664 in AR23. Figure 26 shows the trend through AR24 which has been constant i.e., in AR24 no month has a noticeably higher volume of contacts, unlike October and December 2022 in AR23.

Figure 26: Facebook contacts volumes per month for AR24

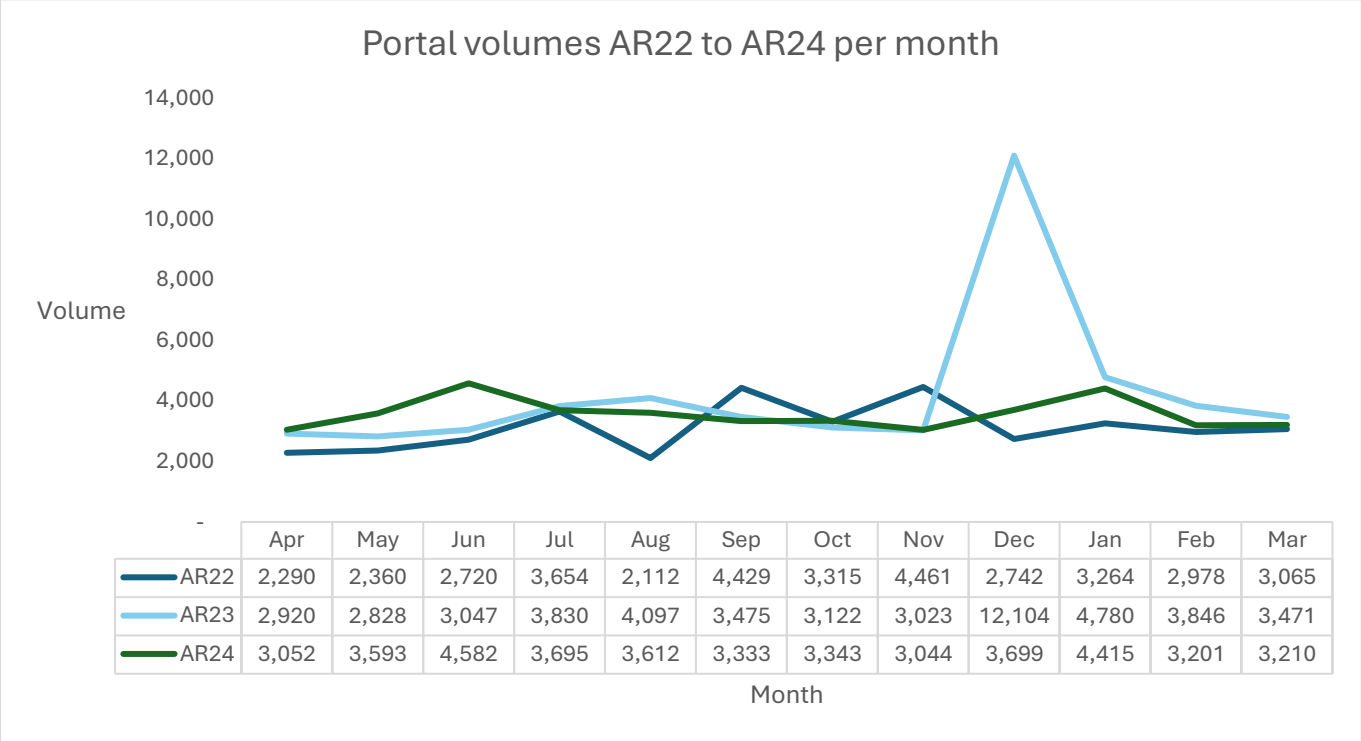


	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR24	1,876	3,069	2,526	2,115	2,536	2,095	1,839	1,233	1,431	2,539	2,453	2151
AR23	2,552	2,548	2,139	2,473	2,548	1,617	3,995	1,859	5,749	4,193	2,779	1212

Line B5.20 Portal

"Portal Contacts" decreased from 50,543 in AR23 to 42,779 in AR24, a decrease of 7,764, or 15.36%. The decrease is mainly due to the lack of a major spike in contacts as seen in December 2023. Figure 27 below demonstrates that the majority of months have remained at constant levels with spikes in June 2023 and January 2024.

Figure 27: Portal contact volumes per month for AR22 to AR24



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR22	2,290	2,360	2,720	3,654	2,112	4,429	3,315	4,461	2,742	3,264	2,978	3,065
AR23	2,920	2,828	3,047	3,830	4,097	3,475	3,122	3,023	12,104	4,780	3,846	3,471
AR24	3,052	3,593	4,582	3,695	3,612	3,333	3,343	3,044	3,699	4,415	3,201	3,210

Line B5.21 Total Contacts

AR24 saw a decrease in the total number of contacts from 393,393 in AR23 to 351,351 in AR24, down 42,042 or 10.69%.

This was across the majority of our customer contact channels with the exception of email contacts, which increased.

Line B5.22 Wanted Contact

“Wanted Contact” increased from 38,729 in AR23 to 46,062 this year, an increase of 7,333, or 18.93%.

The increase in “Wanted Contacts” is mainly due to the increased volume of “Lead Renewal” contacts which are up over 8000 from AR23.

Line B5.23 Non-household Contacts

“Non-Household Contacts” increased from 19,916 in AR23 to 20,481 to AR24, an increase of 565, or 2.84%. Refer to **Line B6.14** for further details.

Line B5.24 Total Service Issue Contacts (total 'unwanted' HH contacts)

This is the same as **Line B5.6** (see above).

Lines B5.25-B5.30 - Household Customer Experience

These lines report the various numbers of survey responses and are used to calculate components of the hCEM qualitative score.

Line B5.25 Customer experience survey – total
This increased from 16,052 in AR23 to 16,534 for AR24, an increase of 482, or 3.00%.

Line B5.26 Customer experience survey – satisfied
This increased from 14,834 in AR23 to 15,521 for AR24, an increase of 687, or 4.63%.

Line B5.27 No experience, no contact survey – total
The total increased from 4,371 in AR23 to 4,243 in AR24, an increase of 128, or 2.93%.

Line B5.28 No experience, no contact survey – satisfied
This decreased from 4,008 in AR23 to 3,751 in AR24, an increase of 257, or 6.43%.

Line B5.29 Experience, no contact survey – total
This decreased from 1,189 in AR23 to 1,171 in AR24, a decrease of 18, or 1.59%.

Line B5.30 Experience, no contact survey – satisfied
This decreased from 913 in AR23 to 856 in AR24, a decrease of 57, or 6.27%.

6.2.4 Lines B5.31-B5.42 - Household Customer Experience Measure

Line B5.31 Household customer experience target (range)
This changed to a target range of 85.0-87.78 for AR23 and has remained unchanged for AR24. For the purposes of the WICS' information request we have established a baseline figure of 85, which is the lower point of the target.

Line B5.32 Household customer experience - total score
This is the same as **Line B5.1**.

The reported score in this line is the sum of **Lines B5.34 and B5.39**. The confidence grade for this line is B3 reflecting the confidence grades for **Lines B5.34 and B5.39**.

Line B5.33 Total connected properties at year end
The total is 2,648,549 for AR24. This represents an increase from the 2,626,703 reported in AR23 of 21,846. As in previous years we cannot calculate this number using the definition provided, as we cannot count connections to individual properties. As such this figure is the sum of **Lines A1.6 and A1.7**, which is the total number of properties (measured and unmeasured) connected to Water. Water is used as proxy for total connected properties as it has a higher number of connected properties compared to Wastewater.

Line B5.34 hCEM quantitative score
The score was 43.58 for AR24. This represents an increase of 0.75 from the score of 42.83, as reported in AR23. The improved score was mainly driven by reductions in the “Service Issue Contacts” and “Escalation” elements in **Lines B5.35 and B5.36** below. For clarity, this represents a decrease of 4.48 points in AR24, compared to 5.31 in AR23, for “Service Issue Contacts” and a decrease of 0.68 points in AR24, compared to 0.89 in AR23, for “Escalations”.

The confidence grade is A3 to reflect the confidence grade allocated to one of the component lines (**Line B5.35 which is A3**).

Line B5.35 Service issue contacts (points lost)

This is 4.48 for AR24 and represents a decrease of 0.83 from 5.31, as reported in AR23. For further details refer to **Line B5.6.**

Line B5.36 Escalations (points lost)

This is 0.68 for AR24. This represents a decrease of 0.21 from 0.89, as reported in AR23. For further details refer to **Line B5.5.**

Line B5.37 Written complaints (points lost)

This is 1.26 for AR24 and represents an increase of 0.29 from the 0.97, as reported in AR23. For further details refer to **Line B5.7**.

Line B5.38 Regulator upheld complaints (points lost)

This is zero for AR24 and remains the same as AR23 levels.

Line B5.39 hCEM qualitative score

This is 43.04 for AR24. This represents a decrease of 0.58 from 43.63, as reported in AR23. The change to the score was driven by the “No Experience No Contact” and “Experience No Contact” elements.

The confidence grade for this line is B2 to reflect the lowest confidence grade allocated to the component **Line B5.40**.

Line B5.40 Customer experience survey (points lost)

This is 1.79 for AR24, which represents a decrease of 0.42 from 2.21, as reported in AR23. For further details refer to **Line B5.2**.

The score reported in this line is calculated using the values reported in **Lines B5.2, B5.25 and B5.26**. All four lines have the same confidence grade, B2.

Line B5.41 No experience, no contact (points lost)

This is 2.03 for AR24, which represents an increase of 0.58 from 1.45, as reported in AR23. For further details refer to **Line B5.3**. The score reported in this line is calculated using the values reported in **Lines B5.3, B5.27 and B5.28** all of which have a confidence grade of A2. Therefore, the confidence grade for **Line B5.41** is A2.

Line B5.42 Experience, no contact (points lost)

This is 3.14 for AR24, which represents an increase of 0.43 from the 2.71, as reported in AR23. For further details refer to **Line B5.4**.

The score reported in this line is calculated using the values reported in **Lines B5.4, 5.29 and B5.30**. All have a confidence grading of A2. Therefore, the confidence grade for **Line B5.42** is A2.

6.3 Data

6.3.1 Data sources and confidence grades

Data for these tables are derived from Scottish Water's corporate systems. The details can be found in the hCEM Reporter's report. For clarity, phone call volumes come from *Puzzel* our telephony management system, social media volumes come from *Sparkscentral*, emails, portal contacts, wanted contacts, escalations, formal complaints, and regulatory upheld complaints are taken from our Customer Record Management system *MS Dynamics*. Customer Experience Survey data is provided by *Rant and Rave* with "No Experience No Contact" and "Experience No Contact" data being provided by YouGov.

There are no changes to confidence gradings.

6.3.2 Data improvement programmes

No significant data improvements were carried out in the year.

6.3.3 Assumptions used for forecast data

In our forecasting for AR24, we have selected a mid-point from our predicted range for each of the individual hCEM components. However, for forecasting the Overall hCEM Score we have calculated that score using the individual mid-point values forecast for each component.

7 Table B6 Non household customer service

7.1 Introduction

The purpose of the Non-household Customer Experience Measure (nhCEM) and the Development Customer Experience Measure (dCEM) is to capture the service levels delivered to non-household and development customers and provide a robust means of measuring the quality of, and tracking changes in, the service experience provided to those customers. Performances against several quantitative and qualitative indicators are combined to produce an Annual Score out of 100 for each measure.

The dCEM went live during AR24.

7.2 Performance Trends

The nhCEM has had a positive year with improvement across all individual elements. A new team called the Wholesale Resolutions team was created to increase first-time resolution for those customers. The team uses a triage approach to identify complex cases requiring additional support, with a view to reducing repeat contacts. There has been ongoing communication and engagement across all wholesale teams to embed the message - “getting it right first time” - for our business customers. The Wholesale Self-Serve project also delivered the first phase of improvements to our online portals for Licensed Providers (LPs). These are aimed at making it easier for LPs to direct customer issues to the correct team and the correct process within Scottish Water.

All of these initiatives are expected to reduce unnecessary work and so improve the experience of non-household customers, with benefits across all components of nhCEM. There has also been a focus on the Business End User (BEU) survey to improve understanding of the root causes of nhCEM point loss and to find opportunities to improve our processes and procedures.

dCEM had a positive start to the year. However, performance dropped through the year and a dCEM recovery and improvement mission was created with key stakeholders to improve the score.

Four key areas were identified as driving poor scores in dCEM:

- Digital Issues
- Connection Contractors performance issues
- People behavior and training
- Mechanics of the dCEM measure

The dCEM score has improved following the dCEM recovery and improvement mission.

Part of the stabiliser for the qualitative dCEM calculation is the number of connections carried out in the year. The number of new connected properties is only taken into account as a denominator in the quantitative element of dCEM, as a value of how much work has been completed. This volume has never dropped below 35k in the last nine years and has averaged over 40k during the same period. In simple terms the quantitative assessment measures the number of contacts divided by the number of connections made.

Since April 2016, the connected properties data has been calculated based on the value of income generated via the Infrastructure Charge. The Infrastructure Charge is applied to all new properties connecting to the Scottish Water network. As such the source system for this data has been the finance billing system *WUB* and, more recently, *Cloud Customer Services* which was implemented in January 2024. This approach, managed by Development Services, in conjunction with the Capital Finance Team, has been consistent. However, in 2023/24 the methodology was impacted by the introduction of two changes both of which resulted in a reduction in the value of income generated and connected properties reported.

In September 2023, the billing process changed, taking a more customer-centric approach which allowed developers, who previously paid up-front for all new applications, the ability to request phased billing. This change was introduced to support the development community particularly by alleviating the burden on their cashflow from having to pay the full amount upfront. Consequently, this has reduced the value of outstanding invoices and reported bad debt.

In January 2024, the introduction of a new billing system CCS resulted in delays in issuing invoices. Both these changes impacted on the value of revenue generated through the Infrastructure Charge and, subsequently, the connected properties data.

In addition to the impact of the changes mentioned above, the development market has slowed during the year, in line with the documented cost of living crisis and economic uncertainty. According to Scottish Government statistics for the calendar year 2023 there has been an 11% reduction in the number of houses completed and 24% reduction in the number of houses started compared to the previous calendar year.

Taking into consideration all of the factors outlined above, an alternative source of connected property data was identified in Period 12 of 2023/24 within the Development Services Customer Relationship Management system (Astro). This data represents the number of applications received and was used to inform the final 23/24 position.

Using the existing method for connected properties the score would have been 71.88. Following review and sign off by senior management the Astro figure was the more reflective figure of the connected properties.

7.2.1 Lines B6.1-B6.7 - Non-household CEM

Line B6.1 nhCEM overall score

This has increased from 86.72 in AR23 to 89.79 for AR24, an increase of 3.07 points, or 3.54%.

All the components within the Quantitative and Qualitative measures were positive in AR24 – see the paragraphs below.

The Quantitative measure had fewer Service Issue Contacts in AR24 compared to AR23 (see **Line B6.4** below), fewer Formal Complaints (see **Line B6.5** below) and fewer Escalations (see **Line B6.6** below). The net result was an increase in the Quantitative score from 45.21 in AR23 to 45.96 in AR24 – an increase of 0.75 nhCEM points (see **Line B6.42** below)

The Qualitative measure had an increase in Licensed Provider 12-month score weighted, from 6.81 in AR23 to 6.91 in AR24 (see **Line B6.47** below). This was supplemented by an increase in the Business End User 12-month score weighted, from 5.15 in AR23 to 5.61 in AR24 (see **Line B6.48** below). This resulted in an overall increase in the Qualitative score from 41.52 in AR23 to 43.83 in AR24 – an increase of 2.31 nhCEM points (see **Line B6.49** below)

Line B6.2 LP Experience Survey

This score increased from 98.41% in AR23 to 99.34% in AR24, an increase of 0.93%. The number of surveys returned increased from 1255 in AR23 to 1657 in AR24, an increase of 402 surveys, or 32.03% (see Table 28).

Table 28: LP experience surveys.

	1	2	3	4	4 - 2	3 -1	3-1 (as %)
LP Surveys	AR23	% of Total	AR24	% of Total	% Movement in Proportion	Volume Movement	Volume Movement %
Score 1-4	20	1.59%	11	0.66%	-0.93%	-9	-45.00%
Score 5-7	1235	98.41%	1646	99.34%	0.93%	411	33.28%
Total Returns	**1255**	**100.00%**	**1657**	**100.00%**		**402**	**32.03%**

The increase in survey returns is a result of ongoing engagement with LPs and keeping contact information up to date to ensure we are contacting the right people at the right time. Engagement activity includes monthly account meetings and monthly newsletters.

AR24 continued the work started in AR23 with initiatives to maintain and improve experience, which included fortnightly team workshops with topics based on the feedback from LPs via the experience survey e.g., if scores were low on the re-assessment process, a review of LP comments took place and a re-assessment workshop created.

The confidence grade for this line is A2, to reflect the confidence grades in **Lines B6.21 – B6.24, B6.47 and B6.50.**

Line B6.3 Business End User (BEU) Survey

This score increased from 87.95% in AR23 to 90.99% in AR24, an increase of 3.04%. The number of surveys returned fell slightly from 1004 in AR23 to 888 in AR24. However, there was a higher proportion of surveys in the 5-7 bracket which had the effect of driving up the satisfaction score (see Table 29).

The confidence grade for this line is B2, to reflect the confidence grades in **Lines B6.25, B6.26 and B6.48 and B6.51**.

Table 29: BEU Surveys.

	1	2	3	4	4 - 2	3 -1	3-1 (as %)
BEU Surveys	AR23	% of Total	AR24	% of Total	% Movement in Proportion	Volume Movement	Volume Movement %
Score 1-4	121	12.05%	80	9.01%	-3.04%	-41	-33.88%
Score 5-7	883	87.95%	808	90.99%	3.04%	-75	-8.49%
Total Returns	**1004**	**100.00%**	**888**	**100.00%**		-116	-11.55%

The increase in the satisfaction survey score of 3.04% was due to a jump in the proportion of satisfied scores (scores that fell into the 5-7 bracket). Whilst AR24 saw the number of returns in this bracket decrease by 75, the proportion of the total increased from 87.95% in AR23 to 90.99% of the overall returns.

“Non-household Septic Tanks” received slightly more surveys year on year. It achieved a satisfaction score of 94.46% (+4.95% year on year). Table 30 below shows the BEU returns spilt by “Non-household Septic Tanks” and the rest of the returns. The Septic Tank team has worked hard during the year to get ahead of the backlog following the driver shortage and operational disruption caused by the COVID-19 pandemic: using contractors where necessary; bringing more drivers on board; and communicating with customers more efficiently to inform them of “Empty Status” and “Time Frame”.

The remaining categories received 120 fewer surveys in AR24. However, the “Percentage Satisfied” increased from 87.38% to 89.47%; an increase of 2.08% year on year with customer comments praising our operational staff and fast response times.

Table 30: BEU Surveys.

	1	2	3	4	4 - 2	3 - 1	3 - 1 (as %)
BEU (Excluding Septic Tank nHH Surveys)	**AR23**	**% of Total**	**AR24**	**% of Total**	**% Movement In Proportion**	**Volume Movement**	**Volume Movement (%)**
Score 1-4	93	12.62%	65	10.53%	-2.08%	-28	-30.11%
Score 5-7	644	87.38%	552	89.47%	**2.08%**	-92	-14.29%
Total Returns	**737**	**100.00%**	**617**	**100.00%**		-120	-16.28%

	1	2	3	4	4 - 2	3 - 1	3 - 1 (as %)
Septic Tanks nHH	**AR23**	**% of Total**	**AR24**	**% of Total**	**% Movement In Proportion**	**Volume Movement**	**Volume Movement (%)**
Score 1-4	28	10.49%	15	5.54%	-4.95%	-13	-46.43%
Score 5-7	239	89.51%	256	94.46%	**4.95%**	**17**	**7.11%**
Total Returns	**267**	**100.00%**	**271**	**100.00%**		**4**	**1.50%**

Total as per Table 56	**1004**		**888**			-116	-11.55%

Line B6.4 Service issue contacts (WSD & CSC)

The number of contacts in this category decreased from 30,586 in AR23 to 28,091 in AR24, a reduction of 2,495 contacts, or 8.16%. This was due to a reduction in the contacts to the Wholesale Service Desk (WSD) driven by our improvements following the introduction of our Wholesale Resolution Team and focus on customer engagement and communication on "getting it right first time" for our customers. This figure is brought forward from **Line B6.17**. The total monthly volumes are presented in Figure 28 which shows a constant trend through the year with a drop in December 2023 similar to AR23. The annual breakdown of these totals by component is shown in Table 31below.

Figure 28: Volume of service issue contacts (WSD and CEC) by month for AR23 and AR24.

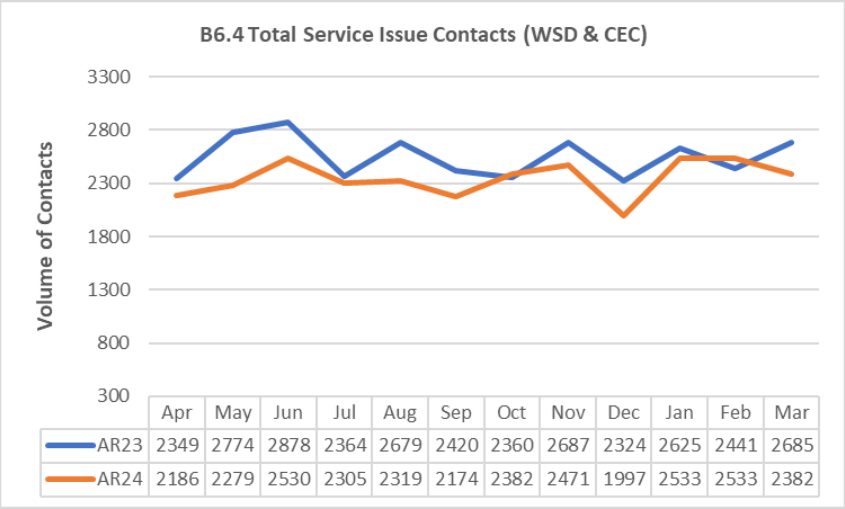


Table 31 below demonstrates reductions across all the Wholesale Service Desk components which is slightly offset by an increase in the Customer Engagement components. This is further covered in the commentary relating to Service Issue Contacts - **Lines B6.8 to B6.16.**

The confidence grade for this line is A3.

Table 31: Total contacts broken down by contact channel.

Service Issue Component	B6 Table ref		AR23	AR24	Change	% Change
Service Issue Contacts - WSD All Calls	B6,8	+	3720	2941	-779	-20.94%
Service Issue Contacts - WSD Total Emails	B6.9	+	4597	3164	-1433	-31.17%
Service Issue Contacts - WSD Total Portal	B6.10	+	24418	19384	-5034	-20.62%
Service Issue Contacts - WSD Bulk Uploads	B6.11	+	1093	506	-587	-53.71%
Service Issue Contacts - WSD Total Wanted	B6.12	-	17953	13223	-4730	-26.35%
Service Issue Contacts = Wholesale Service Desk	B6.13	=1	15875	12772	-3103	-19.55%
Service Issue Contacts - CEC All Contacts	B6.14	+	19916	20481	565	2.84%
Service Issue Contacts - CEC Wanted Contacts	B6.15	-	5205	5162	-43	-0.83%
Service Issue Contacts - Customer Engagement Centre	B6.16	=2	14711	15319	608	4.13%
Total Service Issue Contacts	B6.17	=1 + 2	30586	28091	-2495	-8.16%

Line B6.5 Formal complaints

"Formal Complaints" decreased from 163 in AR23 to 138 in AR24. This represents a decrease of 25 complaints, or 15.34%. Table 32 below shows the main areas where formal complaints have changed year on year. The main areas that saw a reduction were Water Supply (-22), Metering (-4) and CMA Data Amendment (-2). This was offset by a slight rise in complaints relating to Wastewater (+4)

Complaints relating to Water Supply constituted 50.00% of all complaints received in AR24, down from 55.83% in AR23.

The new Wholesale Resolution Team and other improvements mentioned in the performance trends will have resolved customer issues prior to a complaint being raised.

This figure has been brought forward from **Line B6.19**.

Table 32: Main changes in formal complaints AR23 v AR24

2023-24	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	Volume Change AR23 v AR24	% change AR23 v AR24
CMA Data Amendment	0	0	0	1	0	0	0	0	0	0	0	0	1	-2.	-66.67%
Metering	0	0	2	1	0	0	0	0	0	0	0	0	3	-4.	-57.14%
Waste Water	5	2	4	10	2	3	8	1	2	4	3	3	47	4.	9.30%
Water Supply	6	4	5	9	5	5	4	7	4	8	8	4	69	-22.	-24.18%

Line B6.6 Escalations

"Escalations" decreased from 101 in AR23 to 67 in AR24, a drop of 34 Escalations, or 33.66%. This figure has been brought forward from **Line B6.18**.

In AR23 there were 70 escalations via the Wholesale Desk and 31 via the Customer Engagement Centre (total = 101).

In AR24 there were 43 escalations via the Wholesale Desk and 24 via the Customer Engagement Centre (total = 67).

The drop in the number of escalations was influenced by focusing on the following areas during the year:

- Wholesale Resolutions team – this was put in place together with a new escalation process. This team aims to "get it right first time" for the customers, with a view to reducing repeat contacts and resolving complex customer issues.
- Ongoing team communication and engagement - to embed the message of "get it right first time" for our business end customers.
- Increased focus on Root Cause Analysis (RCA) for BEU - to improve our understanding and to find opportunities to continually improve our processes and procedures.

The tables below break down the escalations raised via the Wholesale Desk (Table 33) and the Customer Engagement Centre (Table 34) by service reason, and compare AR24 with AR23.

The number of Wholesale Desk escalations was 43 in AR24, compared to 70 in AR23. A reduction of 27, or 38.57%.

Table 33: Wholesale Desk escalations by service reason and month for AR24, and change compared to AR23.

Escalations via the Wholesale Service Desk

Service Reason	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total AR24	Volume Change to AR23 to AR24
Billing Dispute													0	-2
ERRA													0	-1
Deregistration					1	3			1		1		6	-8
Meter Verification	1			1	1			1				1	5	-7
Charging Enquiry	1	2								1			4	-2
Shared Supply	2					1				1			4	-3
LP General Enquiry					1	2				1	1		5	2
SW Permanent Disconnection									1	2	2	1	6	3
Burst Allowance					1			1					2	0
SW Meter Fault and Repair	1			1									2	-4
Gap Site				1							1		2	1
Pressure/Intermittent Supply		1											1	1
SW Meter Accuracy Test		1											1	0
Unmetered Reassessment								1					1	-4
Choke / Blockage						1							1	1
No Water						1							1	1
SW Meter Exchange for LP													0	-3
SW Meter Install													0	-2
Toby													0	-1
New Connection SPID Request													0	-1
Total	**5**	**4**	**0**	**3**	**4**	**8**	**0**	**3**	**4**	**5**	**5**	**2**	**43**	**-27**

The main movements were:

- A reduction of 8 escalations relating to deregistration (14 in AR23 and 6 in AR24)
- A reduction of 7 escalations relating to Meter Verifications (12 in AR23 and 5 in AR24)
- A reduction of 4 escalations relating to SW Meter Fault & Repair (6 in AR23 and 2 in AR24)
- A reduction of 4 escalations relating to Unmetered Reassessment (5 in AR23 and 1 in AR24)

Customer Engagement Centre Escalations were 24 in AR24, compared to 31 in AR23. A reduction of 7, or 22.58%

Table 34: Customer Engagement Centre escalations by service reason and month for AR24, and change compared to AR23.

Escalations via the Customer Engagement Centre

Service Reason	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total AR24	Volume Change to AR23 to AR24
Choke / Blockage	5			1				2		1		1	10	-3
Burst / Leak			1					1					2	0
General Enquiry	1							1			1	1	4	0
Toby	1							1					2	0
Location Mains/Services/Sewers		1							1				2	2
Pressure/Intermittent Supply					1								1	-3
Reinstatement	1											1	2	2
Cover / Ironwork Fault / Fix									1				1	1
Issue with SW Premise													0	-3
No Water													0	-2
Septic Tank Enquiry													0	-1
Total	**8**	**1**	**1**	**1**	**1**	**0**	**0**	**5**	**2**	**1**	**1**	**3**	**24**	**-7**

Total All Escalations	**13**	**5**	**1**	**4**	**5**	**8**	**0**	**8**	**6**	**6**	**6**	**5**	**67**	

The main movements were:

- A reduction of 3 escalations relating to Choke / Blockage (13 in AR23 and 10 in AR24)
- A reduction of 3 escalations relating to Pressure / Intermittent Supply (4 in AR23 and 1 in AR24)
- A reduction of 3 escalations relating to Issue with SW Premise (3 in AR23 and 0 in AR24)

Line B6.7 Regulatory complaints

There were 0 regulatory upheld complaints in AR24, and this mirrors our performance from AR23. This figure was brought forward from **Line B6.20**.

7.2.2 Lines B6.8-B6.17 - Service Issue Contacts - Non-household customers

Service Issue Contacts were down 2,495 (or 8.16%) from AR23 (refer to the commentary **in Line B6.4** above).

Line B6.8 Contacts from Licenced Providers (LPs) via Wholesale Desk and Portal - all calls

These contacts decreased from 3,720 in AR23 to 2,941 in AR24, a decrease of 779, or 20.94%.

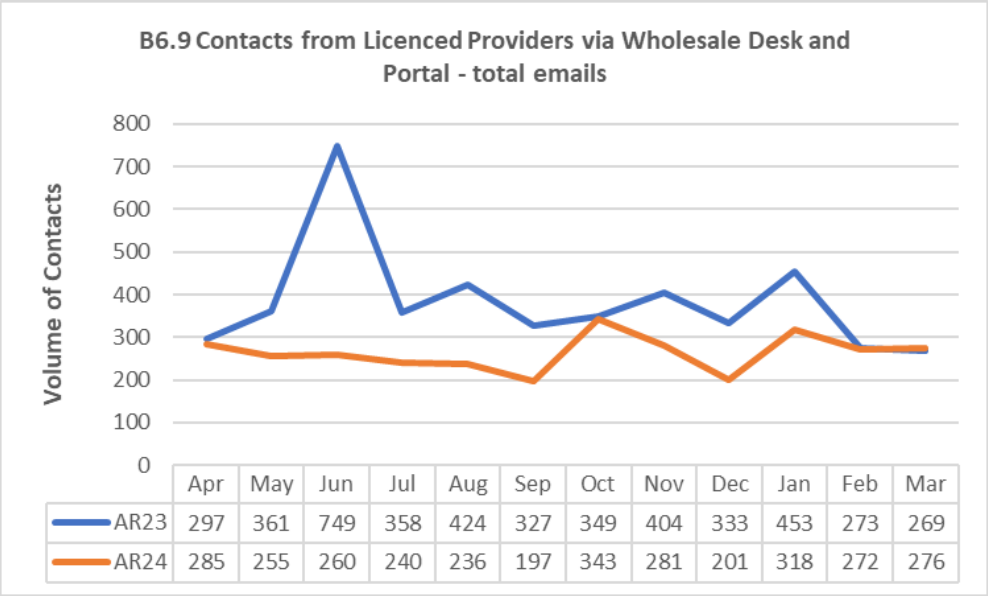
We are working towards becoming less of a reactive service and more proactive to improve both the customer experience and Scottish Water's efficiency. This includes the monthly reconciliation of market data at the CMA (Central Market Agency) with premises data from the Scottish Assessors Association (SAA) to pro-actively identify changes requiring updates to market data (e.g., conversion of business premises to/from household and reconfiguration of commercial premises to split or merge existing units). There is also work going on around first-time resolution and "getting it right first time". These are contributing factors which explain why the number of contacts dropped in AR24 compared to AR23.

Line B6.9 Contacts from Licenced Providers via Wholesale Desk and Portal - total emails

These contacts decreased from 4,597 in AR23 to 3,164 in AR24, a decrease of 1433, or 31.17%.

AR24 has seen fewer emails compared to AR23 for every month except March 2024 - see Figure 29 below. The reasons for the reduction are the same as **Line B6.8** above. AR24 was more constant with no spikes in volume unlike June 2022.

Figure 29: Volume of contacts from Licenced Providers via Wholesale Desk and Portal (total emails) by month for AR23 and AR24.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	297	361	749	358	424	327	349	404	333	453	273	269
AR24	285	255	260	240	236	197	343	281	201	318	272	276

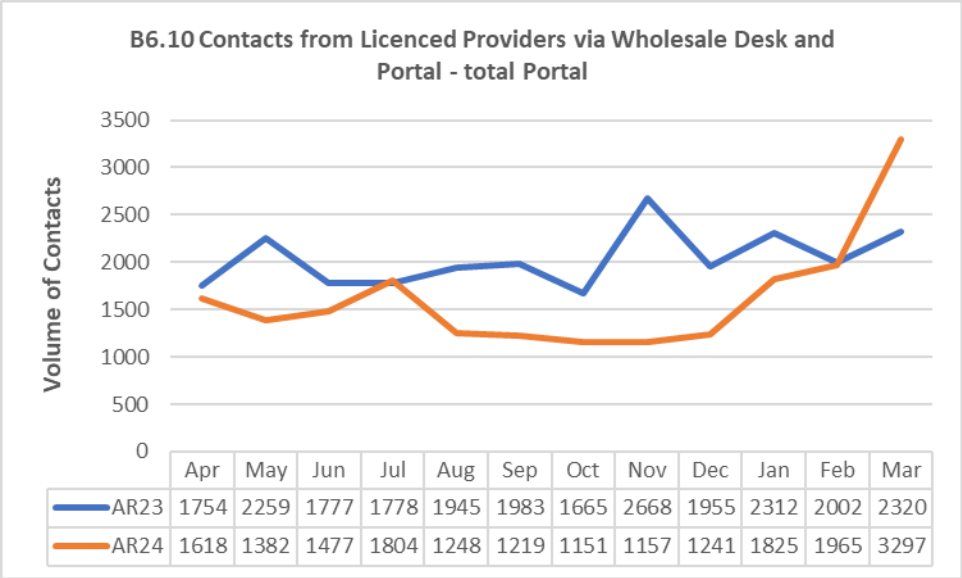
Line B6.10 Contacts from Licenced Providers via Wholesale Desk and Portal - total Portal

These contacts decreased from 24,418 in AR23 to 19,384 in AR24, a decrease of 5,034, or 20.62%.

Figure 30 shows a constant year with an increase in March 2024. The spike in contacts in March 2024 related to charitable exemptions. Exempt customers are required to reapply for exemption each year, confirming their continuing eligibility. In 2023/24 one large Licensed Provider had process and system problems which disrupted the reapplication process for their customers during the Autumn and Winter. This resulted in a large proportion of applications having to be manually processed by them during March to meet the 31 March deadline for 2023/24 applications. Another contributing factor to the increase in contacts in March 2024 was the transfer of some exemption demand from the 'bulk upload' channel (see **Line B6.11**) to the portal.

There is more proactive work going on as we work towards becoming a less reactive service. There is also work going on around first-time resolution and "getting it right first time"; also contributing factors.

Figure 30: Volume of contacts from Licenced Providers via Wholesale Desk and Portal (total Portal) by month for AR23 and AR24.



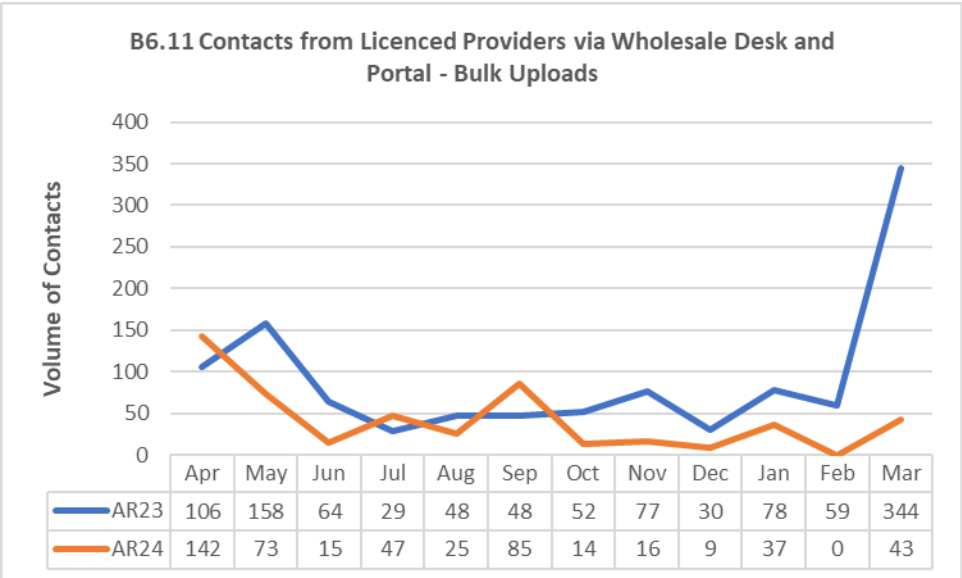
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	1754	2259	1777	1778	1945	1983	1665	2668	1955	2312	2002	2320
AR24	1618	1382	1477	1804	1248	1219	1151	1157	1241	1825	1965	3297

Line B6.11 Contacts from Licenced Providers via Wholesale Desk and Portal - Bulk Uploads

Contacts decreased from 1093 in AR23 to 506 in AR24, a reduction of 587, or 53.71%.

Figure 31 below shows contacts in AR24 were broadly in line with AR23, except March 2024. This is when LPs traditionally 'bulk upload' exemption applications ahead of the final deadline at financial year-end. However, these were coming through via the portal in AR24 rather than Bulk Uploads as in AR23 - see Figure 30 above.

Figure 31: Volume of contacts from Licenced Providers via Wholesale Desk and Portal (bulk uploads) by month for AR23 and AR24.



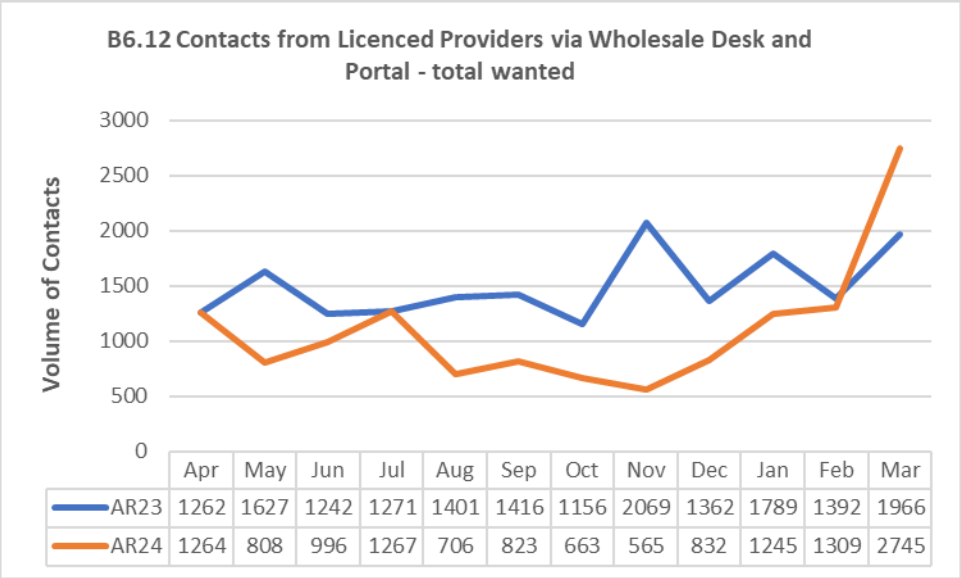
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	106	158	64	29	48	48	52	77	30	78	59	344
AR24	142	73	15	47	25	85	14	16	9	37	0	43

Line B6.12 Contacts from Licenced Providers via Wholesale Desk and Portal - total wanted

These decreased from 17,953 in AR23 to 13,223 in AR24, a reduction of 4,730, or 26.35%.

Figure 32 shows a spike in March 2024 which is related to LPs requesting Charitable Exemptions as noted for **Line B6.10**.

Figure 32: Volume of contacts from Licenced Providers via Wholesale Desk and Portal (total wanted) by month for AR23 and AR24.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	1262	1627	1242	1271	1401	1416	1156	2069	1362	1789	1392	1966
AR24	1264	808	996	1267	706	823	663	565	832	1245	1309	2745

Line B6.13 Contacts from Licenced Providers via Wholesale Desk and Portal - contacts adjusted for permitted exclusions

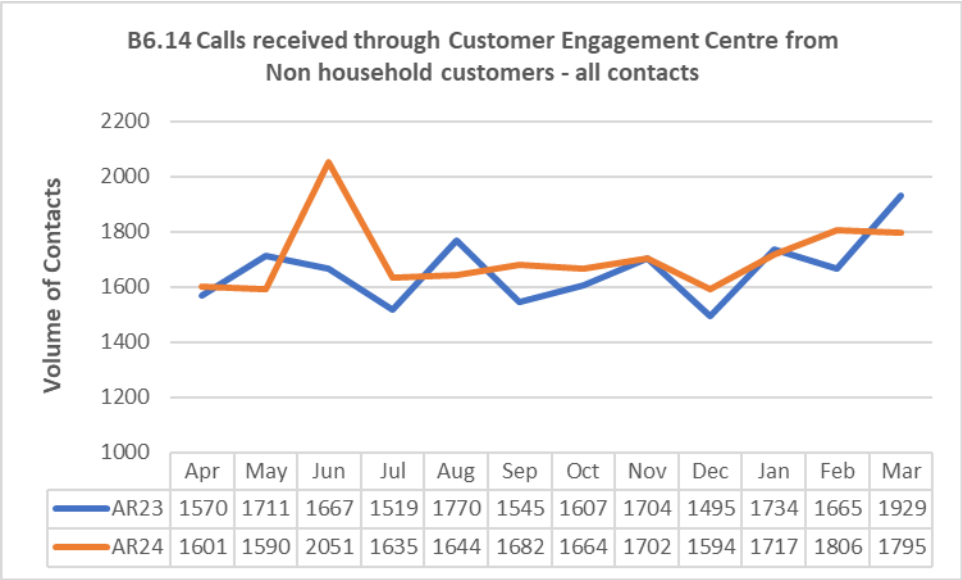
Contacts, adjusted for permitted exclusions, decreased from 15,875 in AR23 to 12,772 in AR24, a decrease of 3,103, or 19.55% (the reason for this is explained in the narrative to **Lines B6.8 to B6.12** above).

Line B6.14 Calls received through Customer Engagement Centre from Non-household customers - all contacts

These contacts increased from 19,916 in AR23 to 20,481 in AR24, an increase of 565 or 2.84%.

Contacts were broadly in line with AR23 apart from a spike in June 2023 due to increased water supply contacts, as per Figure 33.

Figure 33: Volume of calls received through Customer Engagement Centre from Non-household customers (all contacts) by month for AR23 and AR24.

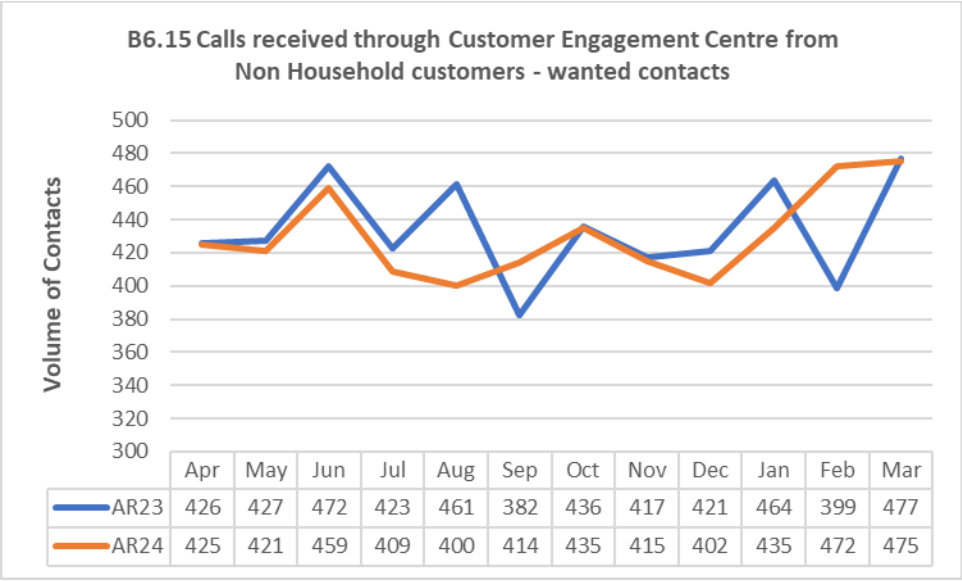


	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	1570	1711	1667	1519	1770	1545	1607	1704	1495	1734	1665	1929
AR24	1601	1590	2051	1635	1644	1682	1664	1702	1594	1717	1806	1795

Line B6.15 Calls received through Customer Engagement Centre from Non-household customers - wanted contacts

Contacts decreased from 5,205 in AR23 to 5,162 in AR24, a decrease of 43, or 0.83%. Contacts in AR24 were broadly in pattern to AR23, with the exception of a small spike in August 2022, as per Figure 34.

Figure 34: Volume of calls received through Customer Engagement Centre from Non-household customers (wanted contacts) by month for AR23 and AR24.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	426	427	472	423	461	382	436	417	421	464	399	477
AR24	425	421	459	409	400	414	435	415	402	435	472	475

Line B6. 16 Calls received through Customer Engagement Centre from Non-household customers - contacts adjusted for permitted exclusions

Contacts increased from 14,711 in AR23 to 15,319 in AR24, an increase of 608, or 4.13%. The reason for this is explained in the narrative to **Lines B6.14 to B6.15** above.

Line B6.17 Non-household service issue contacts - Total unwanted contacts

This has been reported in **Line B6.4**, and in the commentary for **Lines B6.8 to B6.16** above. The confidence grade for this line is A3.

7.2.3 Lines B6.18-B6.26 - Non-household Customer experience

Line B6.18 Escalations

This has been reported in **Line B6.6**.

Line B6.19 Formal complaints (Form G)

This has been reported in **Line B6.5**.

Line B6.20 Regulator upheld complaints

This has been reported in **Line B6.7**.

Line B6.21 LP Experience survey – total

This total increased from 1,255 in AR23 to 1,657 in AR24, an increase of 402, or 32.03%. This has been reported in **Line B6.2** above.

Line B6.22 LP Experience survey – satisfied

This total increased from 1,235 in AR23 to 1,646 in AR24, an increase of 411, or 33.28%. This has been reported in **Line B6.2** above.

Line B6.23 Ease of service indicator line 1

Like AR23, ease of service is not part of the nhCEM measure.

Line B6.24 Ease of service indicator line 2

Like AR23, ease of service is not part of the nhCEM measure.

Line B6.25 Business End-User Experience Survey – total

The total survey returns decreased from 1004 in AR23 to 888 in AR24, a decrease of 116, or 11.55%. This has been reported in **Line B6.3** above.

Line B6.26 Business End-User Experience Survey – satisfied

This decreased from 883 in AR23 to 808 in AR24, a decrease of 75, or 8.49%.

This has been reported in **Line B6.3** above.

7.2.4 Lines B6.27-B6.38 - Developer CEM

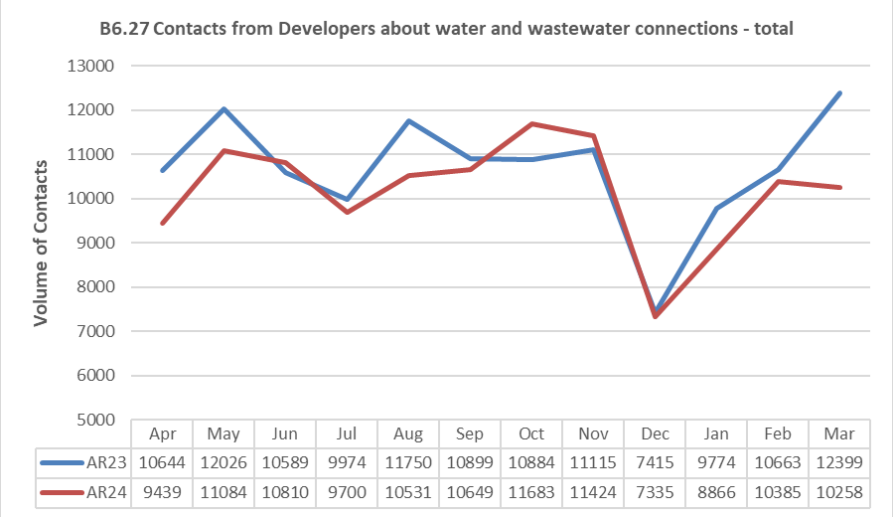
The dCEM went live during the AR24 period. The following lines measure the performance of the individual elements that make up the overall dCEM score.

Line B6.27 Contacts from developers about water and wastewater connections – total

Contacts from development customers about water and wastewater connections decreased from 128,132 in AR23 to 122,164 in AR24, a decrease of 5,968 contacts, or 4.66%.

Contacts in AR24 have remained relatively consistent from month to month compared to AR23, with a seasonal drop in December due to the holiday period as per Figure 35 below. March was a quieter month in AR24 compared to AR23 due to less email traffic and phone calls.

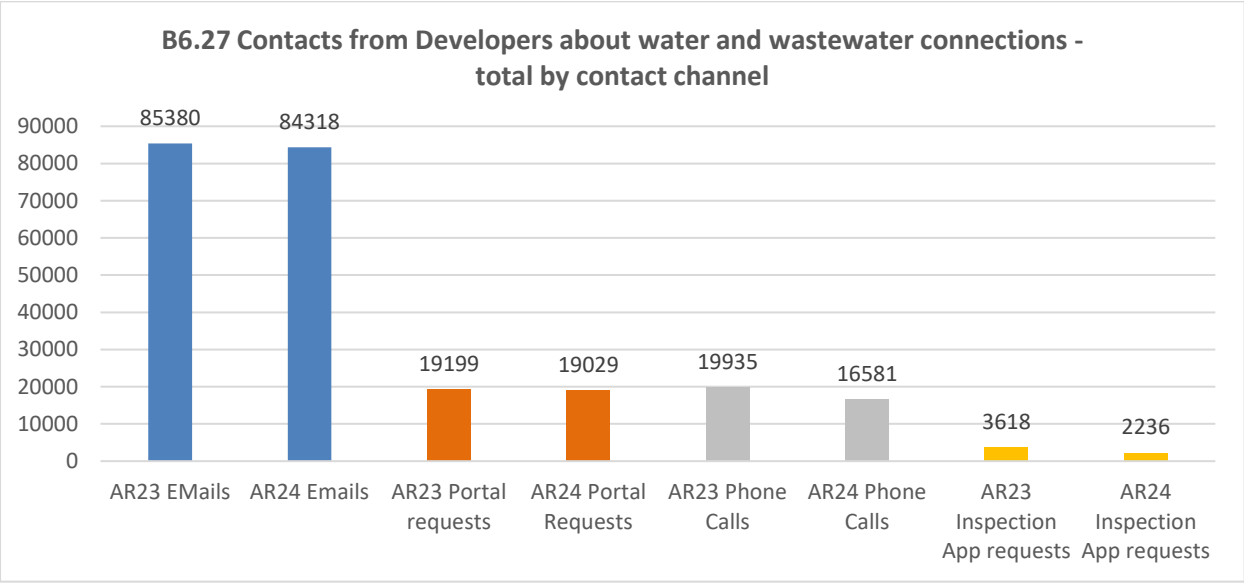
Figure 35: Volume of contacts from developers about water and wastewater connections (total) by month for AR23 v AR24



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	10644	12026	10589	9974	11750	10899	10884	11115	7415	9774	10663	12399
AR24	9439	11084	10810	9700	10531	10649	11683	11424	7335	8866	10385	10258

Figure 36 looks at the split of total contacts by input channel, with most customer contacts being via email. All input channels have seen a reduction in AR24.

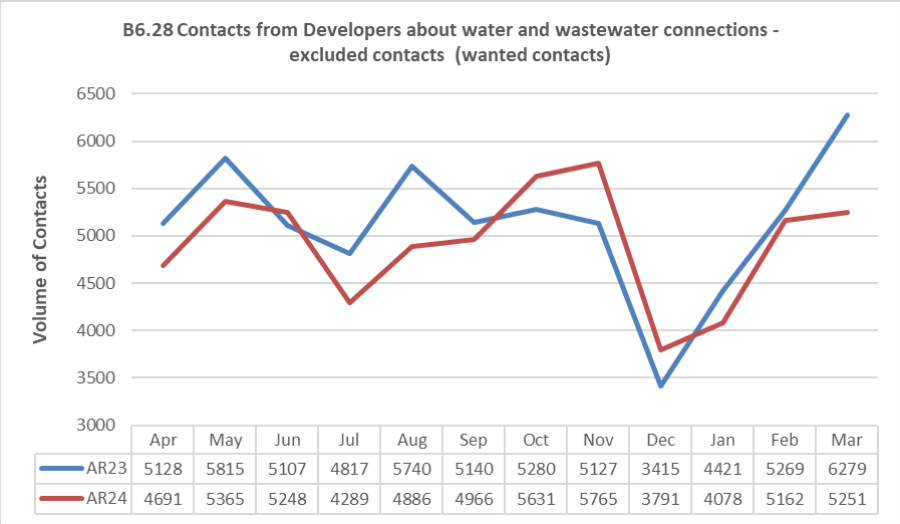
Figure 36: Input channel breakdown of total contacts from developers about water and wastewater connections for AR23 v AR24



Line B6.28 Contacts from developers about water and wastewater connections - excluded contacts (wanted contacts)

"Wanted Contacts" decreased from 61,538 in AR23 to 59,123 in AR24, a decrease of 2,415, or 3.92%. These have approximately followed the pattern of total connections in Figure 35 above; with a seasonal drop in December due to the holiday period as per Figure 37. March was a quieter month in AR24 compared to AR23 due to less emails traffic and phone calls.

Figure 37: Volume of contacts from developers about water and wastewater connections – excluded contacts (wanted contacts) by month for AR23 v AR24



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	5128	5815	5107	4817	5740	5140	5280	5127	3415	4421	5269	6279
AR24	4691	5365	5248	4289	4886	4966	5631	5765	3791	4078	5162	5251

Line B6.29 Contacts from developers about water and wastewater connections - contacts adjusted for permitted exclusions

"Unwanted Contacts" after exclusions decreased from 66,594 in AR23 to 63,041 in AR24, a reduction of 3,553, or 5.34%. This total is derived from "Total Contacts" (**Line B6.27**) less the "Wanted Contacts" (**Line B6.28**) above, to arrive at a "Net Unwanted Total".

Line B6.30 Development Services escalations

In AR24 we had a total of 6 escalations, down from 22 in AR23, a reduction of 16, or 72.73%. The main changes between AR23 and AR24 were a drop in escalations relating to Processes (down six) and Timescales (down three)

Line B6.31 Development Services Formal complaints

In AR24 we had two formal complaints, down from six in AR23, a reduction of four, or 66.67%. Complaint drivers in AR24 were - a billing issue and dispute over a right to connect.

Line B6.32 Development Services Regulator upheld complaints

In AR24 we had zero Regulator upheld complaints, the same number as in AR23.

Line B6.33 Single house connection experience survey – total

In AR24 we had 295 survey returns, down from 347 in AR23 – a reduction of 52 returns, or 14.99% (see Table 35 below).

Line B6.34 Single house connection experience survey – satisfied

In AR24 we had 250 satisfied returns, down from 283 in AR23, with 70.51% giving the top score of 7. The satisfaction score (scores of 5-7) increased from 81.56% in AR23 to 84.75% in AR24, an increase of 3.19% (see Table 35).

Table 35: Single house connection experience survey satisfied scores for AR23 and AR24.

	1	2	3	4	4 - 2	3 -1	3-1 (as %)
Developer Service Surveys - Single House	AR23	% of Total	AR24	% of Total	% Movement in Proportion	Volume Movement	Volume Movement %
Score 1-4	64	18.44%	45	15.25%	-3.19%	-19	-29.69%
Score 5-7	283	81.56%	250	84.75%	3.19%	-33	-11.66%
Total Returns	**347**	**100.00%**	**295**	**100.00%**		**-52**	**-14.99%**

Line B6.35 (developer) Ease of service indicator line 1

In AR24 we received 539 survey returns, down from 571 in AR23, a reduction of 32 returns, or 5.60% (see Table 36).

Line B6.36 (developer) Ease of service indicator line 2

In AR24 we received 430 satisfied survey returns, down from 458 in AR23, a reduction of 28 surveys, or 6.11%. The satisfaction score (satisfied scores of 5-7) decreased from 80.21% in AR23 to 79.78% for AR24, a decrease of 0.43% (see Table 36).

This decrease in satisfaction resulted in an increase in points lost – see **Line B6.62** below. The confidence grade for this line is B2, to reflect the confidence grades in **Line B6.62**.

Table 36: Ease of Service survey satisfied scores for AR23 and AR24.

	1	2	3	4	4 - 2	3 -1	3-1 (as %)
Developer Ease of Doing Business Surveys	AR23	% of Total	AR24	% of Total	% Movement in Proportion	Volume Movement	Volume Movement %
Score 1-4	113	19.79%	109	20.22%	0.43%	-4	-3.54%
Score 5-7	458	80.21%	430	79.78%	-0.43%	-28	-6.11%
Total Returns	**571**	**100.00%**	**539**	**100.00%**		**-32**	**-5.60%**

Line B6.37 Developer/Connections Experience survey- total

In AR24 we received 407 survey returns, up from 367 in AR23, an increase of 40 returns, or 10.90% (see Table 37).

This decrease in satisfaction resulted in a slight decrease in points lost – see **Line B6.63** below.

Line B6.38 Developer/Connections Experience survey- satisfied

In AR24 we received 301 satisfied survey scores, up from 286 in AR23. However, the satisfaction score (satisfied scores of 5-7) decreased from 77.93% in AR23 to 73.96%, a decrease of 3.97% (see Table 37). There was a shift in the proportion of dissatisfied (scores 1-4) and satisfied (scores 5-7). For further details refer to **Line B6.60**.

The confidence grade for this line is B2, to reflect the confidence grades in **Line B6.62**.

Table 37: Developer / Connections survey satisfied scores for AR23 and AR24.

	1	2	3	4	4 - 2	3 -1	3-1 (as %)
Developer Connections Experience Surveys	AR23	% of Total	AR24	% of Total	% Movement in Proportion	Volume Movement	Volume Movement %
Score 1-4	81	22.07%	106	26.04%	3.97%	25	30.86%
Score 5-7	286	77.93%	301	73.96%	-3.97%	15	5.24%
Total Returns	367	100.00%	407	100.00%		40	10.90%

7.2.5 Lines B6.39-B6.50 - Non-household customer experience measure score

Line B6.39 Non-household customer experience target

In AR23 this was a fixed-target score of 85.4-88.66. This remained the target range in AR24. For the purposes of the WICS' information request, we have established a baseline figure of 85.4, which is the low point of the target range.

Line B6.40 Non-household customer experience - total score

This has been reported under **Line B6.1**

Line B6.41 Connected Non-household properties

This line represents the sum of **Lines A1.8** - connected unmeasured non-household properties for water **and Line A1.9** - connected measured non-household properties for water. The number of such properties in AR24 is 160,736. This number has increased from the 159,219 reported in AR23, an increase of 1,517, or 0.95%.

Line B6.42 nhCEM quantitative score

The nhCEM quantitative score increased in AR24 to 45.96 from the 45.21 points reported in AR23. This is an increase of 0.75 points, or 1.66%. This is the result of a combined drop in the points lost in the quantitative elements in **Lines B6.43 to B6.46** below, between AR23 and AR24 (which totals 0.75 points)

Line B6.43 Service issue contacts (points lost)

Points lost decreased to 1.82 in AR24 from the 2.00 points reported in AR23. This represents a decrease of 0.18 points lost, or 8.98%. This reflects the decrease in Service Issue Contacts as outlined in **Line B6.4** above.

Line B6.44 Escalations from Licensed Providers (points lost)

The "Escalations" points lost decreased in AR24 to 0.43 from 0.66 reported in AR23. This is a reduction of 0.23 points lost, or 34.85%. This reflects the significant reduction in "Escalations" as outlined in **Line B6.6** above.

Line B6.45 Formal Non-household customer complaints (points lost)

This increased to 1.79 in AR24 from 2.13 reported in AR23 and represents a decrease of 0.34 points lost, or 16.03%. This reflects the decrease in formal complaints as outlined in **Line B6.5** above .

Line B6.46 Regulator upheld complaints (points lost)

The number of points lost in AR24 was 0.00, which mirrors the AR23 performance. There were no regulatory upheld complaints in AR24 as outlined in **Line B6.7** above.

Line B6.47 LP experience survey 12-month score weighted

The weighted score in AR24 increased to 6.91, from 6.81 in AR23, an increase of 0.10 points, or 1.47%. This reflects the increase in the LP Satisfaction score as outlined in **Line B6.2** above. Survey returns in the dissatisfied bracket of 1-4 are weighted down as per the definition in the nhCEM Definition Document.

Line B6.48 Business end-user experience 12-month score weighted

The weighted score in AR24 increased to 5.61, from 5.15 in AR23, an increase of 0.46 points, or 8.93%. This reflects the increase in the Business End User Satisfaction score as outlined in **Line B6.3** above. Survey returns in the dissatisfied bracket of 1-4 are weighted down as per the definition in the nhCEM Definition Document.

Line B6.49 nhCEM qualitative score

This increased in AR24 to 43.83 from the 41.52 reported in AR23, an increase of 2.31, or 5.56%. The reported score in this line equates to deducting the values reported in **Lines B6.50 and B6.51** from 50.00 (the points allocated to the Qualitative Measure).
This is the result of a combined drop in the points lost in the quantitative elements in **Lines B6.50 and B6.51** below between AR23 and AR24 (which totals 2.31 points)

The increase in the quantitative score is due to the number of LP Experience Survey and Business end-user "Experience" points lost decreasing and reflects the improved performance as per **Lines B6.50 and B6.51** below.

Line B6.50 LP Experience survey (points lost)

This decreased in AR24 to 0.39 from 0.78 reported in AR23. This is a reduction of 0.39 points, or 50.00%.

For more details on this refer to **Line B6.2.**

Line B6.51 Business end-user experience (points lost)

This decreased in AR24 to 5.78 from 7.70 in AR23 and represents a decrease of 1.92, or 24.94%.

For more detail on this refer to **Line B6.3**.

7.2.6 Lines B6.52-B6.63 - Developer customer experience measure score

The purpose of the Developer Customer Experience measure (dCEM) is to inform and drive improvements in service and satisfaction for all those in the Development Community (which includes customers who are making connections to the network for both household and non-household properties) in Scotland. Performance against several quantitative and qualitative indicators are combined to produce an Annual dCEM Score out of 100.

The Developer CEM measure went live in April 2023 and uses the same methodology in AR24 as it did when it was being trialed in AR23. However, due to changes in how the connected properties figure is calculated an alternative method of calculating this was used in AR24 as detailed in the Performance Trends, above.

Line B6.52 Developer customer experience target

The target range in AR24 was 76.5 – 78.7. For the purposes of the WICS' information request, we have established a baseline figure of 76.5, which is the low point of the target range.

Line B6.53 Developer customer experience - total score

AR24 had the same methodology as AR23. See performance trends section 7.2 for more details.

In AR24 the score was 75.92, down from 77.11 in AR23, a decrease of 1.19 points, or 1.54%

The confidence grade for this line is B3, reflecting the fact that this line is calculated using the scores reported in **Line B6.55** (dCEM Quantitative Score) confidence grade A3 and **Line B6.60** (dCEM Qualitative Score) confidence grade B2.

The Quantitative score for AR24 decreased to 38.06 from 39.04 in AR23, a reduction of 0.98 points, or 2.51%. This was driven by an increase in points lost for Service Issue Contacts which was slightly offset by a reduction in "Escalation" and "Formal Complaints" points lost.

The Qualitative score for AR24 decreased to 37.86 from 38.07 in AR23, a reduction of 0.21 points, or 0.55%. This was driven by an increase in points lost for the "Ease of Service" indicator.

Line B6.54 Developer Connected properties

The number of Developer Connected properties for AR24 was 37252, down from 44,355 in AR23, a reduction of 7103, or 16.01%. This has changed for the reasons mentioned in **Performance Trends** above.

The confidence grading of this line has changed from A1 to A3 due to changes in reporting methodology.

Line B6.55 Developer CEM quantitative score

The developer CEM quantitative score for AR24 was 38.06, down from 39.04 in AR23, a reduction of 0.98 points, or 2.51%. Further details of the change are in **Line B6.53** above.

The confidence grading of this line has changed from A1 to A3 due to changes in the connected properties methodology.

Line B6.56 Development services service issue contacts (points lost)

The points lost in AR24 were 11.75, up from 10.43 in AR23, an increase of 1.32 points, or 12.66%.

Although the volume of "Service Issue" contacts decreased in AR24, "Connected Properties" also decreased, which impacted the points lost.

The confidence grading of this line changed from A1 to A3 due to changes in the connected properties methodology.

Line B6.57 Development Services escalations (points lost)

The points lost in AR24 were 0.11, down from 0.34 in AR23, a reduction of 0.23 points, or 67.65%.

The confidence grading of this line changed from A1 to A3 due to changes in the connected properties methodology.

Line B6.58 Development Services formal complaints (points lost)

The points lost in AR24 were 0.07, down from 0.19 in AR23, a reduction of 0.12 points, or 63.16%.

The confidence grading of this line changed from A1 to A3 due to changes in the connected properties methodology.

Line B6.59 Development Services Regulator upheld complaints (points lost)

The points lost in AR24 were 0.00, the same as AR23.

Line B6.60 Developer CEM qualitative score

The Development CEM qualitative score in AR24 was 37.86, down from 38.07 in AR23, a reduction of 0.21 points, or 0.55%.

All scores between 1-4 are taken through a root cause analysis (RCA) process in which the customers are contacted for more information regarding the score. Once this process has been completed the drivers of dissatisfaction are recorded and any improvements which can be made are carried out. One of the improvements was in the RCA process with a revamped feedback form, allowing better capture of customer concerns. Key themes for AR24 are communication, useability of our portal (a self-service, online tool which allows customers to upload documents and progress applications), and timescales. Some tailored training to help address these issues was rolled out in AR24 along with the ongoing dCEM mission.

Line B6.61 Single house connection experience survey

The single house connection experience survey is combined with the development experience survey to calculate a score.

Line B6.62 contains this combined score with no entry against **Line B6.61**.

Line B6.62 Ease of service indicator

The points lost in AR24 were 6.24, up from 6.04 in AR23, an increase of 0.20 points, or 3.31%.

Line B6.63 Development experience survey

The points lost in AR24 were 5.90, up from 5.89 in AR23, an increase of 0.01 points, or 0.17%.

7.3 Data

7.3.1 Data sources and confidence grades

Data for this table are derived from Scottish Water's corporate systems, the details of which can be found in the nhCEM Reporter's Report. However, for clarity, Phone Call Volumes come from *Puzzel* our telephony management system. Email traffic, portal contacts, wanted contacts, escalations, formal complaints and regulatory upheld complaints are taken from our Customer Relationship Management MS Dynamics system. LP Experience Survey, Ease of Service Indicator and Business End User Experience Survey data are provided by Rant and Rave.

dCEM data for Phone Call Volumes comes from *Puzzel*, our telephony management system. Email traffic, portal contacts, wanted contacts, escalations, formal complaints, and regulatory upheld complaints are taken from our Customer Record Management MS Dynamics. Single House Connection Experience Survey data and part of the Ease of Service Indicator is provided by Rant and Rave. The Developer/Connections Experience Survey and the remaining part of Ease of Service Indicator is provided by Trinity McQueen.

All the data sources for AR24 are the same as they were in AR23.

Line B6.52 - Developer customer experience target has been changed from N to A1. This is due to not having a target range set for AR23.

Line B6.53 - Developer customer experience – total score has had its confidence grading changed from B2 to B3. This is to reflect **Lines B6.54 to B6.58** having a new confidence grade of A3.

Lines B6.54 to B6.58 had their confidence grading changed from A1 to A3, due to the changes in connected properties.

7.3.2 Data improvement programmes

As mentioned in the performance trends the dCEM mission is continuing in AR25. Along with a review of the connected properties methodology.

7.3.3 Assumptions used for forecast data

In our forecasting for AR24, we have selected a mid-point from our predicted range for each of the individual nhCEM and dCEM components. However, for forecasting the Overall nhCEM and dCEM Score we have calculated that score using the individual mid-point values forecast for each component. In dCEM due to the review of the connected properties figure if any forecasts for AR25 may change, Lines B6.52 to 59 are likely to be impacted.

8 Table B6A Stakeholders & Community Experience Measure

8.1 Overview

The Stakeholder and Communities Experience Measure (sCEM) tracks and measures performance in perception, trust, and satisfaction as we engage in a wide range of activities in support of Scottish Water priorities and objectives. Figure 38 below shows which stakeholders are covered by sCEM.

It captures sentiment from those who have had direct contact with Scottish Water – and those with a perception of us and our services formed by not having direct experience. SCEM combines quantitative data with qualitative elements.

AR24 was the third year of sCEM reporting. The score achieved in AR24 was 74.98, compared to 74.48 recorded during AR23. Whilst higher than the AR23 outturn position, the AR24 score fell below the predicted target range, which was amended from the AR22 target range.

The key drivers for lost points in AR24 were:

- Lower perception responses to “Contact” and “No Contact” surveys
- A trend of continued higher than forecast contacts, even with improvement processes in place
- Lower satisfaction in the hCEM “No Experience, No Contact” survey, which is a percentage of sCEM.

There was improved performance in the results of both MSP and Local Authority leadership satisfaction surveys. The MSP survey exceeded the forecast outturn position whilst the Local Authority survey result was an improvement on AR23 but did not meet the in-year forecast. A significant effort was undertaken to engage with both politicians and council leaders and chief executives, and this work is continuing with renewed focus and increased resources.

Work has continued to improve processes, with a focus on better outcomes for customers, stakeholders, and communities, driving further effective and efficient practices within the organisation itself.

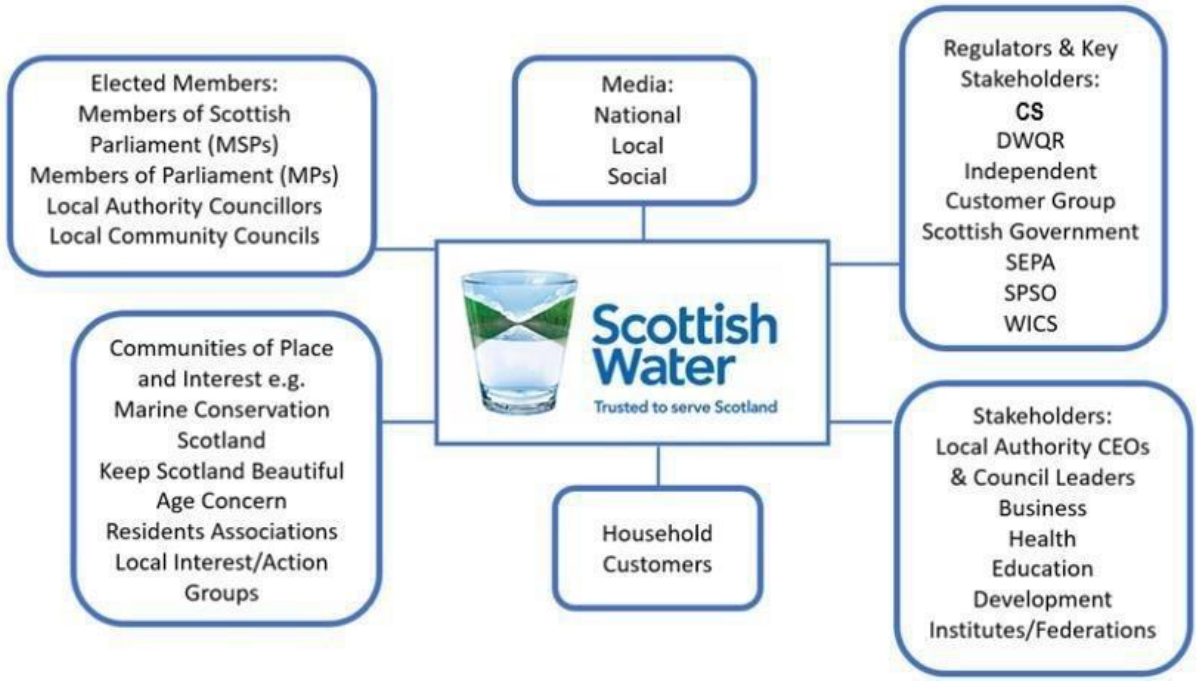
Monthly analysis has shown a high level of stakeholder contacts in relation to issues around wastewater performance, specifically discharges from Combined Sewer Overflows (CSOs) - environmental pollution from sewage and flooding. Improvements to contact management have taken place over the year with a more robust approach evidenced between stakeholder enquiries and service issues which need to be handled elsewhere in Scottish Water delivering a better outcome for customers.

Issues being raised in perception surveys also indicate a wider negative “buzz” around the UK-wide water sector as well as specific concerns about our response to incidents, projects, or investments.

Campaign activity increased over the year with Nature Calls focusing on wastewater and wet wipes, whilst a new campaign has focused on raising public awareness of our public ownership status, asking customers to play an owner’s part and adopt positive behaviours around water and wastewater services.

We are embarking on work to review the components of sCEM to establish if they remain the best way of capturing performance around stakeholder and community experience and perceptions.

Figure 38: Stakeholders included in sCEM.



8.2 Performance Trends

sCEM Score AR24 74.98

sCEM Score AR23 74.48

The target range for sCEM in AR24 was 76.5-83.5. However, throughout the past year we consistently scored between 74-75. The reasons for this include:

In AR24 we continued to receive higher than forecast numbers of stakeholder contacts. These numbers stabilised over the last quarter with improvements to the management of first-time operational reports and the redefining of some stakeholder enquiries that are more consistent with the management of hCEM enquiries. With these improvements in place, we anticipate further reductions in numbers received in AR25.

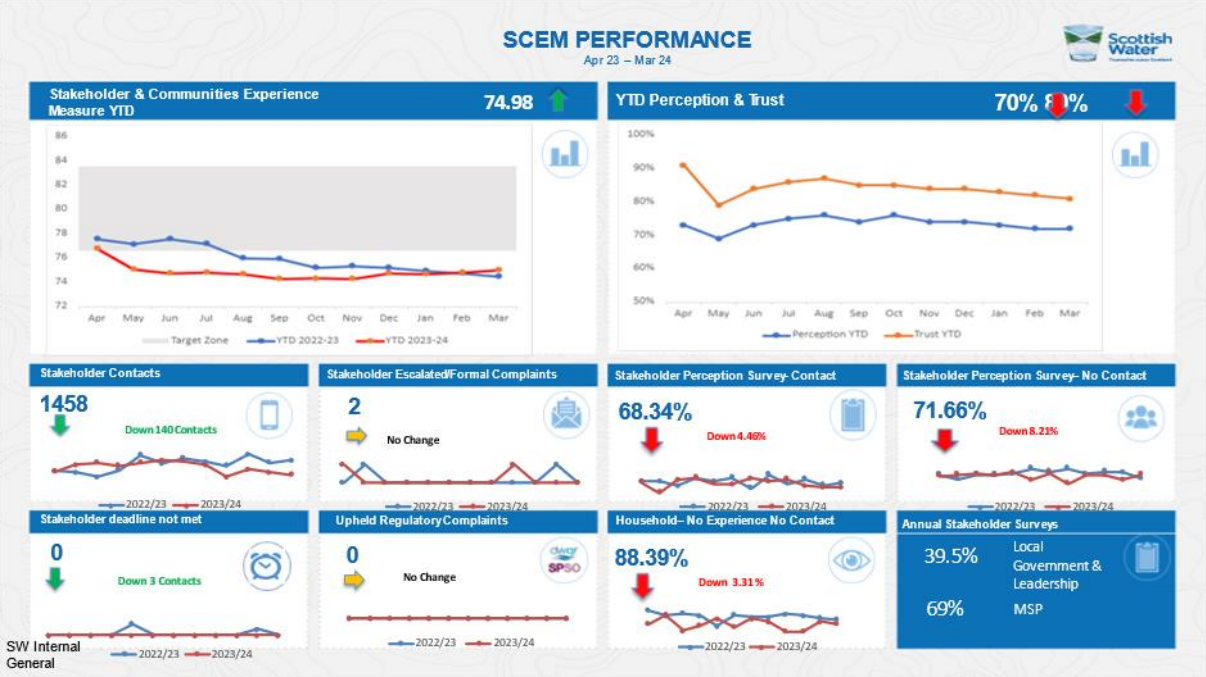
It is evident that weather-related events continue to significantly impact the number of enquiries, particularly during flooding. AR24 external factors such as the cost-of-living crisis and concerns about the environmental impact of storm overflow systems have also contributed to the number received and in the scoring of perception surveys.

In AR24 we developed a new process in collaboration with teams from across Scottish Water. This process involves providing advance warning and proactive information to customers and stakeholders ahead of forecasted weather events, with the aim of reducing the surge in contacts traditionally received during and after these events.

With the introduction in AR23 of the online version of our monthly stakeholder perception survey we saw the number of completed surveys average 35+ per month for both telephone and online combined. While the new online version has allowed us to reach new stakeholders and community groups, it negatively impacted our score as many customers scored passively or neutrally.

In AR24 we saw improvements to the scores of our annual surveys of Local Government and Leadership and, more prominently, in the MSP survey. Based on stakeholder feedback about face-to-face engagement, we allocated resources to meet these expectations. In 2024-25, we plan to continue this Programme and have added a new question to gather insight into how our performance compares to other utilities in Scotland.

Figure 39: AR24 sCEM Performance Dashboard



Line B6A.1 sCEM overall score

This was 74.98. The quantitative score comprised 40.22 (**Line B6A.13**) or 53.63%, of the points; and the qualitative score comprised 34.77 (**Line B6A.18**) or 46.37%. This is brought forward from **Line B6A.12**.

Line B6A.2 Stakeholder contacts received

In AR24 we received 1458 stakeholder contacts. This is a decrease of 140 from AR23 when1598 were reported.

Line B6A.3 Stakeholder enquiries not responded to / Deadline not met

In AR24, we had 0 enquiries not responded to/deadline not met. This is down from 3 in AR23.

Line B6A.4 Stakeholder escalated / Formal Complaints

In AR24, we received 2 escalated/formal complaints. This is the same as AR23. The complaints received were about our perceived management of an environmental pollution incident and our policy and timescales in providing flood alleviation for customers on our risk register.

Line B6A.5 Scottish Government/ Regulator Upheld Stakeholder complaints

In AR24 we received 0 Scottish Government/Regulator upheld complaints for the third year.

Line B6A.6 Monthly perception survey – Contact

In AR24 this was reported as 68.34% and lower than the AR23 72.80%.

Line B6A.7 Monthly perception survey - No Contact

In AR24 this was reported as 71.66%. This also saw a decrease from 79.87% in AR23.

See introduction to this Performance Trends section 8.2 for more information on what has impacted on the qualitative elements and the improvements being made.

Line B6A.8 Monthly customer perception survey - No Experience No Contact (hCEM)
This is also reported in **Line B5.3**. "No "Experience, No Contact" decreased from 91.70% in AR23 to 88.39% in AR24 (more information can be found in the hCEM commentary).

Line B6A.9 MSP Survey (Annual Perception Survey)
In AR24 this increased for the second year from 57% in AR23 to 69%.

Line B6A.10 Local Government Leadership Survey (Annual Perception Survey)
In AR24 this increased to 39.5% from the reported 33% in AR23.

Lines B6A.11-B6A.23 - Stakeholder Customer Experience Measure score

Line B6A.11 Stakeholder customer experience target
The target range for AR24 was 76.5-83.5.

Line B6A.12 Stakeholder customer experience - total score
This is reported in **Line B6A.1**

The score reported in this line is calculated using the values reported in **Lines B6a.18** (stakeholder CEM qualitative score – B2) **and B6a.13** (Stakeholder CEM quantitative score – A1). The confidence grade for this line is B2 reflecting the confidence grades for the lines used in the calculations.

Line B6A.13 Stakeholder CEM quantitative score
In AR24 the score was 40.22. This is a slight increase from the 39.25 reported in AR23. This improvement is reflective of the reduction in the number of stakeholder contacts received.

The confidence grade for this line is A1.

Line B6A.14 Stakeholder contacts received
In AR24 points lost were 9.76 (in AR23 this was 10.69).

Line B6A.15 Stakeholder contacts not responded to/deadline not met
In AR24 points lost were 0.00 (in AR23 this was 0.03).

Line B6A.16 Stakeholder escalated/formal complaints
In AR24 points lost were 0.03 (in AR23 this was 0.03).

Line B6A.17 Regulator upheld stakeholder complaints
In AR24 points lost were 0.00 (in AR23 this was 0.00).

Line B6A.18 Stakeholder CEM qualitative score (points lost)
In AR24, the score was 34.77, a decrease from 35.24 in AR23. Like AR23 this decrease was driven by performance across our monthly perception surveys.

The confidence grade for this line is B2

Line B6A.19 Monthly perception survey - 'contact' (points lost)
In AR24 "contact" points lost were 3.60 (in AR23 this was 3.32).
The confidence grade for this line is B2.

Line B6A.20 Monthly perception survey - 'no contact' (points lost)
In AR24 "no contacts" points lost were 3.93 (in AR23 this was 3.34).

The confidence grade for this line is B2.

Line B6A.21 Monthly You Gov survey - 'no experience, no contact' household customers (points lost)
In AR24, hCEM “No experience, no contact” points lost were 2.37 (in AR23 this was 1.69).

The confidence grade for this line is B2.

Line B6A.22 MSP annual perception survey (points lost)
In AR24, MSP survey points lost were 1.81 (in AR23 this was 2.51).

The confidence grade for this line is B2.

Line B6A.23 Local Government Leadership annual perception survey (points lost)
In AR24 the Local Government Leadership survey points lost were 3.53 (in AR23 this was 3.91).

The confidence grade for this line is B2.

8.3 Data

8.3.1 Data sources and confidence grades

Quantitative data are taken from Scottish Water’s corporate systems including Microsoft Dynamics and Vuelio platforms for logging and tracking enquiries and contacts from stakeholders. These have a confidence grade of A1.

Qualitative data are provided by external research companies for monthly perception surveys with stakeholders and annual surveys with MSPs and local authority leaders. These have a confidence grade of B2.

8.3.2 Data improvement programmes

Work has been undertaken in several areas:

Review of contact types: Corporate Affairs Stakeholder versus Customer Service. In AR24 we focused on defining and implementing process changes to provide the right service for both stakeholders and customers. In 2024/25 we will continue this effort by categorising the reasons for contact, gathering insight into how we can manage these more efficiently within Corporate Affairs and in wider organisation.

Clearer alignment with other CEM’s: Collaborating with other CEM’s has been invaluable as we understand more about our shared goals. By creating a new bold campaign such as ‘Piped by Us, Owned by You,’ we can enhance customer and stakeholder perceptions. We recognise that dCEM has faced similar challenges to sCEM and by collaborating with them we can learn from their experiences and lessons learnt.

Introduction of online capability: In AR23 we launched an online version of the monthly perception survey to increase sample size and engage with more stakeholders. This initiative was successful, and in AR24, we streamlined the survey questions for ease of use. Additionally, we

included a question on Scottish Water's campaign awareness. In 2024-25 we will make changes that will make the survey scoring options more understandable for the participants, many score 4 out of 7 which is considered 'neutral'. However, in our data analysis this is counted as negative.

8.3.3 Assumptions used for forecast data

In February 2023, after reviewing sCEM historical data the Board agreed to adjust the sCEM target range due to a higher than anticipated number of stakeholder contacts.

Despite this readjustment in AR24, sCEM has been unable to meet its target range of 76.5-83.5. In February 2024, Scottish Water's Executive Leadership Team discussed the measure and agreed to undertake a review of its current measurement and weightings. This review is scheduled for 2024/25 with the existing mid-range forecast and planned improvements remaining in place during AR25.

sCEM Target - Our AR25 target range is 76.5-83.5

9 Table B7: Customer care - Service Standards performance

9.1 Overview

From 1 April 2015 Guaranteed Service Standards (GSS) and Price Promise merged to a single set of standards called “Our Service Standards”.

If Scottish Water fails to comply with “Our Service Standards” as set out in the Code of Practice, the customer is entitled to a payment. Most of the payments are automatically paid when Scottish Water identifies non-compliance and a small number require our customers to make a claim for payment.

Details relating to appointments have experienced system (Dynamics and Salesforce) integration issues from January 2022 to March 2023. This prevented Scottish Water from being able to identify where appointments may have been missed prior to AR24. This issue has been rectified and reported in the AR24 period.

9.2 Performance Trends

In AR24 we have seen a mixed trend across our Service Standards.

Interruptions to supply payments decreased from 1,872 to 364, following increased levels in AR23 due to the Kerse incident (caused by issues with the main inlet at a service reservoir and a faulty pressure reducing valve - further details of this incident are available in the AR23 commentary) which accounted for 1,373 payments.

We had hoped to be able to report on the split of payments in AR24 for **Lines B7.7 to B7.10**. However, issues encountered when testing the proposed automation of these lines means that this is not possible. Further investigations are needed to find a solution. The main issue is a difficulty in establishing what percentage of the payment the customer has had over the year. We are now aiming to report this in AR25. In the meantime, we have reverted to reporting the overall number of payments and include these in **Line B7.6** for AR24, as was the case in AR23.

Sewer flooding payments have also decreased overall - down from 451 to 385. **Line B4.11** shows a reduction in telephone complaints regarding Wastewater compared to AR23.

Appointments increased in AR24, as we are now able to report on those payments made automatically. Work is still ongoing to resolve a few remaining issues which are combination of behavioural and system issues. Further details are in **Lines B7.35 to B7.42**.

Pressure payments have increased from 30 in AR23 to 36 in AR24.

Ex-gratia payments increased in the main due to a water quality issue in Benbecula, Outer Hebrides.

In AR24 a new way to pay our service standards was implemented. Entitled PayMe, this allows us to pay our customers electronically and securely, in real time.

This project was initiated to remove the data protection risk of handling customers bank details, which was an issue with the previous process.

PayMe sends a unique link to the customer's email address, where they enter their account number and sort code. The link directs them to the bank, which handles the payment on behalf of Scottish Water. Payments can reach bank accounts in as little as ten minutes. The customer

does not need to share any bank details with us or wait for a cheque or a bank transfer. It is quick, easy and safe.

Key customer benefits of PayMe:

- reduces the risk of data protection breaches, as we do not store or handle customer bank details.
- speeds up the payment process, we do not have to wait for a weekly pay run or for the money to reach the customer's account.
- More control and flexibility, as the customer can choose when and where to complete the payment.

9.2.1 Lines B7.1-B7.4 Planned Interruptions

Planned interruptions warn customers 48 hours in advance and supply is restored within the time given. Payment is made if Scottish Water fails to warn customers or supply is not restored by the time given.

B7.1 Number of Service Standards failure payments paid automatically (planned interruptions)

This was zero in AR24, which mirrored the performance in AR23.

B7.2 Number of Service Standards failure payments claimed (planned interruptions)

Compared to AR24 there was an increase in the number of claims made against Scottish Water in relation to interruption to supply i.e., eleven claims compared to six in the AR23. This is a payment which customers claim so it will vary depending on the number of customers claiming. Having reviewed the claims there was no geographical trend in these payments.

B7.3 Total number of Service Standards failure payments made (planned interruptions)

In AR24, this was eleven, an increase of five from the six reported in AR23.

B7.4 Total amount paid out for Service Standards failure (planned interruptions)

In AR24 £500.00 was paid out. This was higher than the AR23 figure of £180.00, an increase of £320.00, or 177.78%.

Table 38 below shows the average payment from AR23 to AR24 which has increased from

£30.00 in AR23 to £45.45 in AR24. The increase is due to a payment to a non-domestic property which receives a payment of £50 for the first 12 hours of interruption and then £25 per 12 hours of further interruption.

Table 38: Average payment for service standard failure.

	AR23	AR24
Amount Paid	£180.00	£500.00
Payments	6	11
Average Payment	£30.00	£45.45

9.2.2 Lines B7.5- B7.12 - Unplanned Interruptions - (burst main and so on) restore within 12 hours (48 hours for a large main supplying a large area)

B7.5 Number of Service Standards failure payments paid automatically (unplanned interruptions)

The number of payments paid automatically was zero in AR24, which mirrored the performance of AR23.

B7.6 Number of Service Standards failure payments claimed (unplanned interruptions)

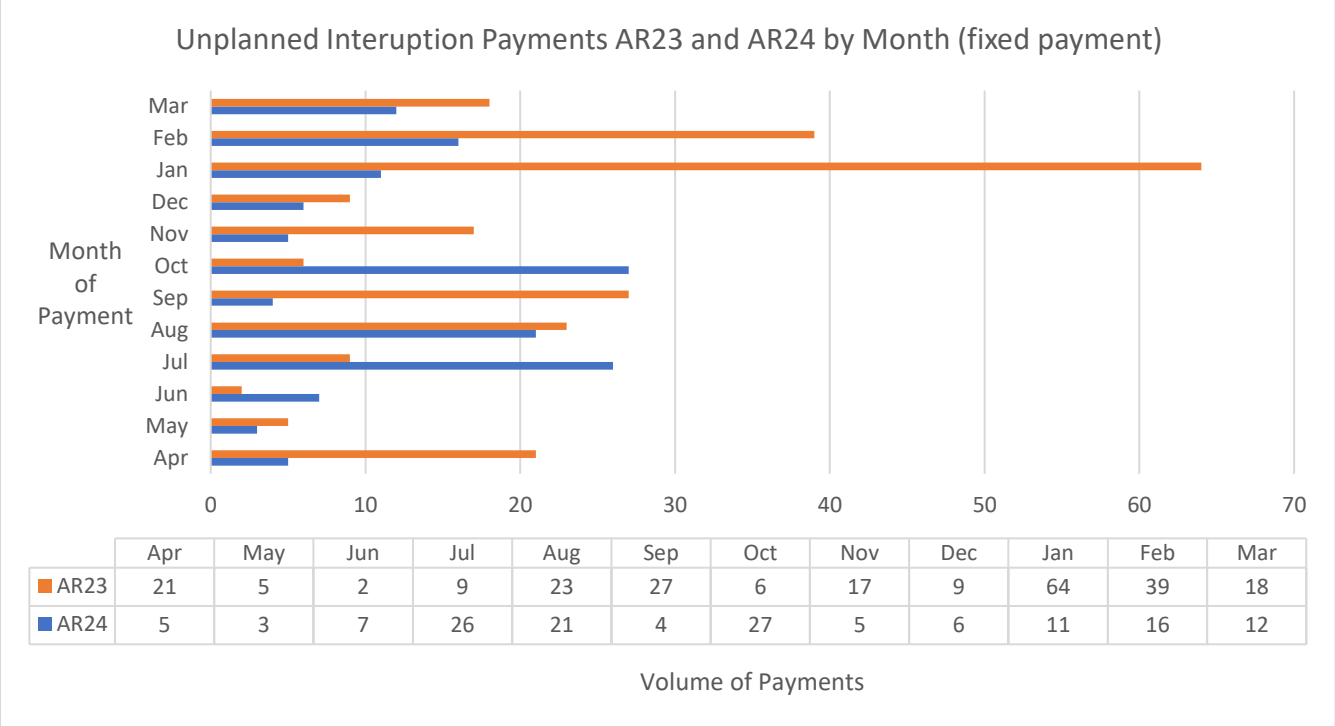
The number of payments claimed was 364 in AR24, down from the AR23 figure of 1,872, a decrease of 1,508, or 80.56%.

As in AR23 this includes the payments related to repeat interruptions Lines B7.7 to B7.10 of which there are 221, in April 2023 we had developed and implemented a way to automate this however after further testing, automation of this was unsuccessful. Further investigations are ongoing to resolve this. We have reverted to reporting the overall number of payments and included these in Line B7.6 as was the case in AR23.

The fixed payment accounts for 143 of the payments in AR24 compared to 240 in AR23, which are for all failures - interruption to supply where “you can claim £30, then £15 for every 12-hour period after this that you are without water” for domestic properties; and £50 then £25 for non-domestic properties.

Figure 40 shows how these are split across AR24 and AR23. Unlike AR23 there has not been a high number of claims from any specific interruption.

Figure 40: Volume of unplanned interruption payments (fixed payments) by month for AR23 and AR24.

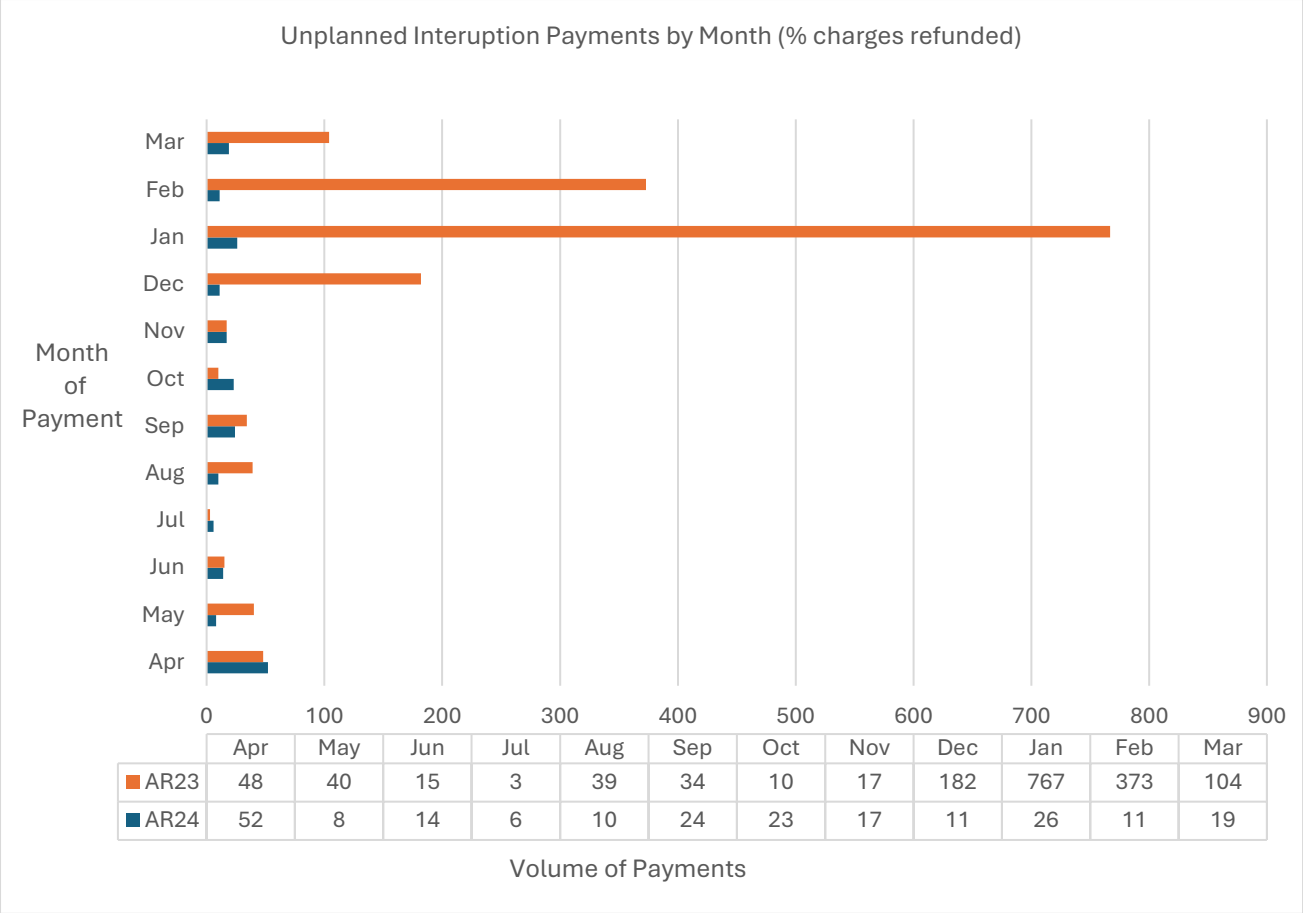


	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	21	5	2	9	23	27	6	17	9	64	39	18
AR24	5	3	7	26	21	4	27	5	6	11	16	12

The second split of payments relate to the following statement: “If you report two interruptions in the same financial year, caused by a failure in the network that is not related to work we are carrying out, you can apply to claim a payment of 25% of your annual water charges. If you experience and report subsequent interruptions within the same financial year, you can claim a further 25% for each of those subsequent interruptions, to a maximum of 100% of your water charges”.

There were 221 payments made in AR24 down from 1,632 payments in AR23 and Figure 41: Volume of unplanned interruption payments (% charges refunded) by month for AR23 and AR24. As with the payments for one off interruption to supply, there was no high number of claims from any specific interruptions. In April 2023 we made 21 further payments in relation to the Kerse interruptions (due to issues with the main inlet at a service reservoir and a faulty pressure reducing valve. Further details of the Kerse incident are in the AR23 commentary).

Figure 41: Volume of unplanned interruption payments (% charges refunded) by month for AR23 and AR24.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AR23	48	40	15	3	39	34	10	17	182	767	373	104
AR24	52	8	14	6	10	24	23	17	11	26	11	19

B7.7 Number of Service Standards failure payments claimed for two interruptions per year
Automated reporting of this line was developed and began implementation in April 2023. However, after further testing, the automation was not successful. Further details of this are included in the performance trends section 9.2. We have reverted to reporting the overall number of payments and include these in **Line B7.6**, as was the case in AR23.

B7.8 Number of Service Standards failure payments claimed for three interruptions per year
Automated reporting of this line was developed and implemented in April 2023. However, after further testing, the automation was not successful. Further details are included in the performance trends section 9.2. We have reverted to reporting the overall number of payments and included these in **Line B7.6** as was the case in AR23.

B7.9 Number of Service Standards failure payments claimed for four interruptions per year
Automated reporting of this line was developed and implemented in April 2023. However, after further testing, the automation was not successful. Further details are included in the performance trends section 9.2. We have reverted to reporting the overall number of payments and included these in **Line B7.6** as was the case in AR23.

B7.10 Number of Service Standards failure payments claimed for five interruptions per year
Automated reporting of this line was developed and implemented in April 2023. However, after further testing, the automation was not successful. Further details are included in the performance trends section 9.2. We have reverted to reporting the overall number of payments and included these in **Line B7.6** as was the case in AR23.

B7.11 Total number of Service Standards failure payments made (unplanned interruptions)
The number of payments claimed was 364 in AR24, down from 1,872 claimed in AR23, a decrease of 1508, or 80.56%. In AR24, as was the case in AR23, we are unable to report the split of **Lines B7.7 to B7.10** due to the failure of the system changes necessary to allow us to report on this. We are able to report the total payments for these lines - 221 as these payments are included in **Line B7.6** which details the payment breakdown. In AR24 there has not been a high number of claims from any specific interruptions, unlike AR23 with the Kerse interruptions (due to issues with the main inlet at a service reservoir and a faulty pressure reducing valve. Further details of the Kerse incident are in the AR23 commentary). These payments are claimed by the customer, and this can impact volumes.

B7.12 Total amount paid out for Service Standards failure (unplanned interruptions)
The total amount paid in AR24 was £44,003.57, down from £324,479.24 reported in AR23, a decrease of £280,475.67, or 86.44%.

Table 39 below shows the split of payments by reason for payment. This shows the decrease is mainly due to having 1,411 less payments in AR24 than in AR23 - totaling £298,921.67 - for repeat interruptions to supply. As referenced in **Line B7.11** there has not been a high number of claims from any specific interruptions, unlike AR23 with the Kerse interruptions which caused 1,371 payments totaling £261,341.25 (due to issues with the main inlet at a service reservoir and a faulty pressure reducing valve. Further details of the Kerse incident are in the AR23 commentary). These payments are claimed by the customer, and this can impact volumes.

Table 39: Split of payments by reason for line B7.12 for AR23 and AR24.

	AR23	AR24	Difference AR24 – AR23
Payments for Interruption to supply	240	143	-97
Amount paid	£13,405.00	£11,850	-£1,555
Payments for between 2-5 Interruptions to suppl	1632	221	-1411

Amount paid	£311,074.24	£32,153.57	-£298,921.67
Total Payments	1872	364	-1508
Total Amount paid	£324,479.24	£44,003.57	-£280,475.67

Table 40 details the average payment which has decreased from £173.33 in AR23 to £120.89 in AR24. As mentioned in **Line B7.6** the majority of payments are due to repeat interruption to supply. During the Kerse incident (further details in AR23 commentary) customers would have received a full refund of their water charges which would have the effect of pushing the average amount up.

Table 40: Average payment for Service Standard failure (unplanned interruptions) for AR23 and AR24.

	AR23	AR24
Amount Paid	£324,479.24	£44,003.57
Payments	1872	364
Average Payment	£173.33	£120.89

9.2.3 Lines B7.13-B7.20 – Internal wastewater flooding– caused by wastewater from our sewers

B7.13 Number of payments to domestic properties for internal flooding from sewers due to being on the register

The number of payments made in AR24 was 183, compared to 171 in AR23, an increase of 12, or 7.02%. The number of payments offered has reduced due to properties being removed from the register. Although the number of payments offered has decreased the overall amount has increased due to the number of customers accepting the payment, Table 41 shows the volume of payments offered, paid and % paid.

Table 41: Volume of payments offered, paid and % paid for AR23 and AR24 for line B7.13.

	Offered Payment	Paid	% Paid
AR23	261	171	66%
AR24	239	183	77%

B7.14 Number of payments to domestic properties for internal flooding from sewers due to not being on the register

The number of payments was 117 in AR24, compared to 163 in AR23, a decrease 46, or 28.22%. Referring to Table B3, internal flooding increased in AR24. However there has also been an increase in those that fall outwith the remit of a service standard payment. These payments are claimed by the customer, and this can impact volumes.

B7.15 Total amount paid to domestic properties for internal flooding from sewers due to being on the register

The total amount paid to domestic properties in AR24 was £59,592.93 compared to £51,465.94 in AR23, an increase of £8,126.99, or 15.79%. Table 42 shows the average payment which has increased from £300.97 in AR23 to £325.64 in AR24. This payment is based on the wastewater charges for the property and will have increased based on increases in the charges, Table 43 shows the changes in charges between AR22, AR23 and AR24. It can also be affected by the charges at the property. For example, a property with higher charges is removed from the register but a property with lower charges is added.

Table 42: Average payment amount for line B7.15 for AR23 and AR24.

	AR23	AR24
Amount Paid	£51,465.94	£59,592.93
Payments	171	183
Average Payment	£300.97	£325.64

Table 43: Unmetered Wastewater Supply Collection Charges.

Unmetered Wastewater Collection Charges			
Council Tax Band	AR22	AR23	AR24
Band A	£164.46	£171.36	£179.88
Band B	£191.87	£199.92	£209.86
Band C	£219.28	£228.48	£239.84
Band D	£246.69	£257.04	£269.82
Band E	£301.51	£314.16	£329.78
Band F	£356.33	£371.28	£389.74
Band G	£411.15	£428.40	£449.70
Band H	£493.38	£514.08	£539.64

B7.16 Total amount paid to domestic properties for internal flooding from sewers due to not being on the register

The total amount paid was £33,858.66 in AR24, compared to £45,536.62 in AR23, a decrease of £11,677.96, or 25.65% (see Table 44). As with **Line B7.15** these payments are based on the wastewater charges of the property flooded. As such the average payment can alter depending on the property.

Table 44: The amount paid, number of payments and average payment for line B7.16 for AR23 and AR24.

	AR23	AR24
Amount Paid	£45,536.62	£33,858.66
Payments	163	117
Average Payment	£279.37	£289.39

B7.17 Number of payments to non-domestic properties for internal flooding from sewers due to being on the register

These payments are not applicable to non-domestic customers and are therefore reported with a confidence grading of N.

B7.18 Number of payments to non-domestic properties for internal flooding from sewers due to not being on the register

The number of payments to non-domestic properties for internal flooding from sewers due to not being on the register is 84 in AR24, compared to 107 in AR23, a decrease of 23, or 21.50%

B7.19 Total amount paid to non- domestic properties for internal flooding from sewers due to being on the register

These payments are not applicable to non-domestic customers and are therefore reported with a confidence grading of N.

B7.20 Total amount paid to non-domestic properties for internal flooding from sewers due to not being on the register

The total amount paid was £57,190.21 in AR24, compared to £69,314.33 in AR23, a decrease of £12,124.12, or 17.49% The average payment has increased from £647.80 in AR23 to £680.84 in wAR24 (see Table 45). The payment is based on the Wastewater charges up to a maximum payment of £1,000, as such the average payment can alter depending on the properties flooded.

Table 45: The amount paid, number of payments and average payment for line B7.20 for AR23 and AR24.

	AR23	AR24
Amount Paid	£69,314.33	£57,190.21
Payments	107	84
Average Payment	£647.80	£680.84

9.2.4 Lines B7.21-B7.24 - External wastewater flooding - Caused by wastewater from our sewers

B7.21 Number of payments to domestic properties for external flooding from sewers

In AR24, we made one payment to domestic properties for external flooding from sewers, a decrease of nine from the ten payments in AR23. These payments are claimed by the customer, and this can impact volumes. Restricted access to the property due to external flooding is one of the criteria for these payments.

B7.22 Total amount paid to domestic properties for external flooding from sewers

In AR24 we paid £428.40 in payments to domestic properties for external flooding from sewers, compared to £1,922.60 in AR23. This has decreased by £1,494.20, or 77.72%. The average payment has also increased from £192.26 in AR23 to £428.40 in AR24, as shown in Table 46 below. The payments for these vary depending on the level of charges at the property, hence we see a change in the average payment. The single payment in AR24 was due to an incident in AR23, so charges for that year were paid. These payments are claimed by the customer, and this can impact volumes.

Table 46: The amount paid, number of payments and average payment for line B7.22 for AR23 and AR24.

	AR23	AR24
Amount Paid	£1,922.60	£428.40
Payments	10	1
Average Payment	£192.26	£428.40

B7.23 Number of payments to non-domestic properties for external flooding from sewers

These payments are not applicable to non-domestic customers and are therefore reported with a confidence grading of N.

B7.24 Total amount paid to non-domestic properties for external flooding from sewers

These payments are not applicable to non-domestic customers and are therefore reported with a confidence grading of N.

9.2.5 Lines B7.25-B7.29 - Respond to questions about your bill and changing your payment methods - respond within 5 working days

There were no failures reported against this standard.

9.2.6 Lines B7.30-B7.34 - Written response to a formal complaint - respond within 5 working days

There were no failures reported against this standard.

9.2.7 Lines B7.35-B7.42 - Appointments - keeping appointments made more than 24 hours in advance

We are able to report these figures although work is still ongoing to resolve some outstanding problems - a combination of behavioural and system issues. Examples of behavioural issues include people not being aware of how to identify an appointment in their schedule and not realizing what is expected when they have appointments booked. With regards to system issues, it became clear that the switch to and from British summertime was not automatically carried out by the system and this had a negative effect on attendance times already agreed with customers. For example, staff arriving before the appointment time despite an appointment time already being agreed with the customer. It was deemed unfair on customers to stop all payments completely due to this, and additional manual checks have been put in place to allow us to progress with payments to customers.

B7.35 Number of appointments

The number of appointments in AR24 was 4,332, up from 4,226 in AR23, an increase of 106 appointments, or 2.51%.

B7.36 % of appointments made which are kept

The % of appointments made which are kept in AR24 was 87.69%. As per our response in AR22 and AR23 this information was not available. The confidence grade for this line is B3.

B7.37 Number of two-hour time banded appointments made

The number of two-hour time banded appointments made in AR24 was 4,332, up from 4,226 in AR23, an increase of 106 appointments, or 2.51%. To continue to offer this volume of appointments, we review the amount of resources we have available for them and balance this with other workloads. We are currently looking at ways that we can provide more options to our customers when booking an appointment. These changes may include providing different start times for the appointment and further enhancing the visibility our planning and field teams have of these bookings.

B7.38 % of two-hour time banded appointments made which are kept

The % of appointments made which are kept in AR24 was 87.69%. As per our response in AR22 and AR23 this information was not available. The confidence grade for this line is B3.

B7.39 Number of Service Standards failure payments paid automatically (keeping appointments)

The number of payments paid automatically in AR24 was 297, an increase of 297 from zero reported in AR23. As per our response in AR22 these started to be reported in AR24. The number of payments made differs from the number of failed appointments. This is due to some customers refusing the payments or staff being unable to contact the customer to request payment details. As with **Lines B7.36 and B7.38** the confidence grading for this line is B3.

B7.40 Number of payments made from claims for failure (keeping appointments)

The number of payments made in AR24 for failing to keep appointments was 17, an increase of two on the fifteen failures to keep appointments in AR23.

The 17 failures to keep appointments in AR24 represents 0.39% of the total number of appointments made (**Line B7.35** - number of appointments 4,332), compared to the 15 failures in AR23, which represents 0.35% of the total number of appointments made (**Line B7.35** - number of appointments 4,226) – a marginal change in comparison between of AR24 and AR23.

Field and Customer teams have been working hard to understand the reasons for failure. These fall into 2 categories: resource restrictions due to emergency works and behaviours relating to awareness of appointment requirements or system notifications.

B7.41 Total number of Service Standards failure payments made (keeping appointments)

The total number of service standards failure payments made in AR24 was 314. This has increased from 15 in AR23, an increase of 299. The increase is due to being able to report 297 automatic payments in **Line B7.39** in AR24. This information was not available AR23. The confidence grading is B3.

B7.42 Total amount paid out for Service Standards failure (keeping appointments)

The total amount paid out for service standards failure in AR24 was £9,150.00. This has increased from £450.00 in AR23, an increase of £8,700. As mentioned in **Line B7.41**, the increase is mainly due to technical issues in AR23 which prevented us making automatic payments which account for 297 of the 314 payments made in AR24. Field and Customer teams have been working hard to understand the reasons for failure. These fall in to two categories: resource restrictions due to emergency works and behaviours relating to awareness of appointment requirements or system notifications.

Table 47 shows the average payment has decreased from £30.00 in AR23 to £29.14 in AR24. This is due to some payments being made to non-domestic customers in AR24 of £20, while domestic customers receive £30.

Table 47: The amount paid, number of payments and average payment for line B7.42 for AR23 and AR24.

	AR23	AR24
Amount Paid	£450.00	£9150.00
Payments	15	314
Average Payment	£30.00	£29.14

9.2.8 Lines B7.43-B7.47 - Water in gas pipes - give you a call within 2 hours of reporting the fault to give details of what happens next

There were no failures reported against this standard.

9.2.9 Lines B7.48-B7.52 - Water meters - applications. We will let you know the outcome within 10 working days of your application

There were no failures reported against this standard.

9.2.10 Lines B7.53-B7.58 - Water pressure - we will tell you the outcome of our investigations within 5 working days

B7.53 Number of payments made within Service Standards period due to being on the register

The number of payments for AR24 is 36 compared to 30 in AR23. This is due to the number of eligible properties and the number of properties taking up the payment increasing. Table 48 shows the numbers of properties eligible for a payment and the percentage who have accepted the payment both of which have increased since AR23.

Table 48: Volume of payments offered, paid and % paid for AR23 and AR24 for line B7.53.

	Offered Payment	Paid	% Paid
AR23	46	30	65.22%
AR24	47	36	76.60%

B7.54 Number not dealt with within Service Standards period

The number not dealt with within Service Standards period was zero in AR24, this mirrored the performance from AR23.

B7.55 Number of payments for failure to respond (automatic)

The number of payments for failure to respond (automatic) was zero in AR24, this mirrored the performance in AR23.

B7.56 Number of payments made from claims for failure to respond

The number of payments made from claims for failure to respond was zero in AR24, this decreased from one in AR23. These are claimed payments from customers and volumes are impacted by this.

B7.57 Total number of payments for failure to respond

The total number of payments for failure to respond was zero in AR24, this decreased from one in AR23.

B7.58 Total amount paid for Service Standards failure

The total amount paid for service standards failure was £11,166.67 in AR24, compared to

£8,702.56 in AR23, an increase of £2,464.11, or 28.21% Table 49 below shows the average payment which has increased from £280.73 in AR23 to £310.19 in AR24. This is made up of all the payments made in **Lines B7.53 to B7.57**, **Line B7.53** is a payment of the water charges we have paid for the year, while **Lines B7.54 to B7.57** is a £30 payment. No payment of £30 was made in AR24, making the average payment being driven by water charges which can vary depending on the property.

Table 49: The amount paid, number of payments and average payment for line B7.58 for AR23 and AR24.

	AR23	AR24
Amount Paid	£8,702.56	£11,166.67
Payments	31	36
Average Payment	£280.73	£310.19

9.2.11 Lines B7.59-B7.62 - Water quality - affecting the water quality where a 'boil water' or do not use notice' is in place for more than 3 months

There were no failures reported against this standard.

B7.59 Number of restrictions (e.g., boil notices, do not use notices)
The number of restrictions (e.g., boil notices, do not use notices) was zero in AR24. This mirrors the performance in AR23.

B7.60 Number of restrictions (e.g., boil notices, do not use notices) in place for more than 3 months
The number of restrictions (e.g., boil notices, do not use notices) in place for more than three months was zero in AR24. This mirrors the performance in AR23.

B7.61 Number of Service Standards failure payments made from claims (water quality)
The number of service standards failure payments made from claims (water quality) was zero in AR24. This mirrors the performance in AR23.

B7.62 Total amount paid out for failure (water quality)
The total amount paid out for failure (water quality) was £0.00 in AR24. This mirrors the performance in AR23.

9.2.12 Lines B7.63-B7.68 - Connection Services - where evidence confirms that we have caused a delay

There were no failures reported against this standard.

B7.63 Number not dealt within the Service Standards period (≤32mm outside diameter pipe)
The number not dealt within the service standards period (≤32mm outside diameter pipe) was zero in AR24. This mirrors the performance in AR23.

B7.64 Number not dealt within the Service Standards period (>32mm outside diameter pipe)
The number not dealt within the service standards period (>32mm outside diameter pipe) was zero in AR24. This mirrors the performance in AR23.

B7.65 Number of payments made from claims for failure to respond (≤32mm outside diameter pipe)
The number of payments made from claims for failure to respond (≤32mm outside diameter pipe) was zero in AR24. This mirrors the performance in AR23.

B7.66 Number of payments made from claims for failure to respond (>32mm outside diameter pipe)
The number of payments made from claims for failure to respond (>32mm outside diameter pipe) was zero in AR24. This mirrors the performance in AR23.

B7.67 Total number of payments made from claims for failure to respond
The total number of payments made from claims for failure to respond was zero in AR24. This mirrors the performance in AR23.

B7.68 Total amount paid for Service Standards failure
The total amount paid for Service Standards failure was zero in AR24. This mirrors the performance in AR23.

9.2.13 Lines B7.69-B7.70 - Ex Gratia Payments Made

On receipt of a claim, Scottish Water fully investigates the details of the claim with the assistance of the relevant parties. If we establish that a failure has occurred, ex-gratia offer may be made to the customer. This payment is not considered an admission of liability by Scottish Water, and this does not affect the claimant's legal rights.

B7.69 Total number of ex-gratia payments made
The total number of ex-gratia payments made in AR24 was 785 which is an increase of 396 from the AR23 total of 389. In AR24 376 payments were offered to customers following the impacts of the Benbecula water quality incident (in the Outer Hebrides). This totalled £26,320.00, leaving 409 payments - which is broadly in line with the AR23 total of 396.

The incident impacted 1,041 properties and restrictions were implemented from Wednesday 13 to Saturday 16 September 2023 on the Island of Benbecula and in the north end of the Island of South Uist.

Restrictions were implemented following the identification of a leak from the fuel tank of a Scottish Water back-up generator at the pumping station that supplies Benbecula Water Treatment Works. There was no power cut, but fuel is stored in the generator fuel tank to allow it to start automatically if the normal power supply is interrupted. At no point was there a risk to public health through water consumption, but we decided to implement restrictions on a precautionary basis until we had taken samples and carried out our investigations. We recognised the impact to our customers and by way of an apology offered a payment of £70 which equates to a 25% rebate of the average water charge across Scotland.

B7.70 Total amount paid out in ex-gratia payments
The total amount paid out in ex gratia payments in AR24 was £126,647.50. This has increased from £81,442.11 in AR23, an increase of £45,205.39. This was mainly due to the impact of the water quality payments made for the Benbecula incident, totalling £26,320 in AR24.

9.2.14 Lines B7.71-B7.75 - Major Incidents - A) Failure to provide information

There were no failures reported against this standard.

9.2.15 Lines B7.76-B7.80 - Major Incidents - B) Failure to provide alternative supplies

There were no failures reported against this standard.

9.3 Data

9.3.1 Data sources and confidence grades

Processes and procedures are in place which allow the Service Standards Team to strictly monitor performance on all Scottish Water's service standards. Information is accurately captured, and reports are produced that identify potential non-compliance with our standards. Each notified failure is fully investigated with the assistance of the relevant parties within the business and, if it is established that a failure has occurred, a payment will be issued to the customer.

This team also has responsibility for processing all ex-gratia claims received via a public liability claim against Scottish Water.

The Service Standards Team are fully accredited and operate to ISO9001 standard.

Line B7.35 - number of appointments, has had its confidence grading changed from B3 in AR23 to A1 in AR24 due to the improvements in the process over AR23. See Section 9.1 for further details.

Line B7.37 - number of two-hour time banded appointments made has had its confidence grading changed from B3 in AR23 to A1 in AR24 due to the improvements in the process over AR23. See Section 9.1 for further details.

Lines B7.39 - number of service standards failure payments paid automatically (keeping appointments) and **B7.41** - total number of service standards failure payments made (keeping appointments) have had their confidence grading changed from A1 to B3. This is due to issues remaining in the reporting of appointments under review.

Lines B7.40 - number of payments made from claims for failure (keeping appointments) has had its confidence grading changed from AX to A1. Due to the increase in volumes.

There were no further changes to the confidence grades.

9.3.2 Data improvement programmes

There was no significant data improvement in AR24 2023-24.

9.3.3 Assumptions used for forecast data

There are no forecasts in Table B7.

10 Table B8: Water infrastructure and sewerage service

10.1 Overview

The majority of lines reported in this table are repeated from other tables. The data derivations, observations and grades are discussed in their relevant table comments sections and referenced in this section, with limited summaries below.

The Distribution Input and Leakage components of this table, reported in **Lines B8.9 to B8.13**, are from Table A2 **Lines A2.6 to A2.21** and **Lines A2.23 to A2.26**.

10.2 Performance Trends

Line B8.1 - Water service – distribution - Mains bursts per 1000 km

Reported performance of 159.68 bursts per 1,000km was calculated from water mains bursts (7,860), and the total mains length of 49,224.43km. This rate is comparable to AR23 (decrease of 1%) due to a similar weather pattern. The differences were that the warmest weather was during July and August 2022 for AR23, and during May and June 2023 for AR24. The coldest weather occurred during January 2024 in AR24, a month later than for the AR23 period.

Lines B8.2-B8.3 - Sewerage service

The numbers reported for this section are derived from Microsoft Dynamics. When a customer reports an incident to the Customer Contact Centre, sewer response field teams investigate. Any incidents which require further work due to sewer damage are passed to Network Analysts for further investigation and to arrange repair. The numbers reported in this section are the filtered incidents which have been deemed as sewer collapse after further investigation. For reporting purposes, we include all cases where the pipe is damaged, and a repair has been necessary and rising mains are included in the reported numbers.

Line B8.2 Total number of sewer collapses

In this category Scottish Water reports as a “collapse” all cases where a sewer is damaged, and a repair has been necessary. The Water Industry Commission for Scotland (WICS) definition for this line states ‘All third-party damage should be excluded where costs are potentially (rather than actually) recovered from a third party.’

The number of reported collapses increased from 1,618 in AR23 to 2,501 in AR24, a 54.57% increase. This represents a 10% increase over the last highest recorded number in AR15.

Improvements introduced resulting in the 54.57% increase in reported Sewer Collapses:

- **Increase in CCTV Surveys** – an increase in the number of CCTV surveys carried out by Sewer Response after every repair has resulted in an increase in the number of Sewer Collapses recorded. This resulted in Scottish Water being able to address issues that may have gone undetected before thus preventing any future disturbance to customers.

- **Alternative Resolution Management** – this process involves bringing departments together across functions and working in new ways to resolve complex customer problems. It is used to identify and address repeat appointments to customers. This is helping to identify weak spots in the network and as a result we are finding more issues which are a contributing factor in driving the increase in sewer collapses recorded.

Line B8.3 Sewer collapses per 1000 km

The reported performance of 45.73 sewer collapses/1,000km was calculated from the number of sewer collapses (2,501) divided by the total length of sewer.

Line B8.4 Number of unsatisfactory intermittent discharges

The number of reported UIDs increased from 776 in AR23 to 907 in AR24. This is an increase of 131 and is as a result of including better performance intelligence generated through the extensive SR15 and SR21 environmental study programmes. As such the confidence grade for this line has increased from B2 in AR23 to A3 in AR24.

In line with Scottish Water's Improving Urban Waters commitments, (Improving Urban Waters Routemap - Scottish Water), to improving monitoring of our overflows, 703 Event Duration Monitors (EDMs) have been installed as of 03/06/24, with the expected installation of approximately 1,000 monitors by December 2024. This means Scottish Water will be able to report near, real-time, spill data on network and treatment works Combined Sewer Overflows (CSO) that discharge to the highest priority waters (including all designated shellfish and bathing waters).

Line B8.5 Number of intermittent discharges

This line reports the total number of Scottish Water's Intermittent Discharges (IDs). It is intended to include IDs in the network CSOs, Settled Storm Sewage Overflows (SSSO), Surface Water Overflows (SWO) and Emergency Overflows (EO) and IDs at Wastewater Treatment Works (WwTWs) - Inlet CSOs, SSSOs and Eos.

The number of IDs was reported as 3,591 in AR23 and 4,083 in AR24 - an increase of 492. Robust data improvement activity has been undertaken during the year to identify intermittent discharges not previously recorded in Scottish Water's Ellipse system. The additions are mainly located at WwTWs where intermittent discharge assets were not recorded separately from the works assets. Individual identification means discharges can be included and prioritised and consistently managed as an asset class for maintenance, monitoring and investment for spill monitor installation in the Improving Urban Waters plan. Whilst work has been done to verify intermittent discharges, a proportion of them is yet to be confirmed, so the confidence grade has remained the same as AR23, i.e. A3.

Line B8.6 Percentage of unsatisfactory intermittent discharges

Line B8.6 is a calculated percentage line; the Number of Unsatisfactory Intermittent Discharges **Line B8.4**; divided by **Line B8.5 -** Number of Intermittent Discharges.

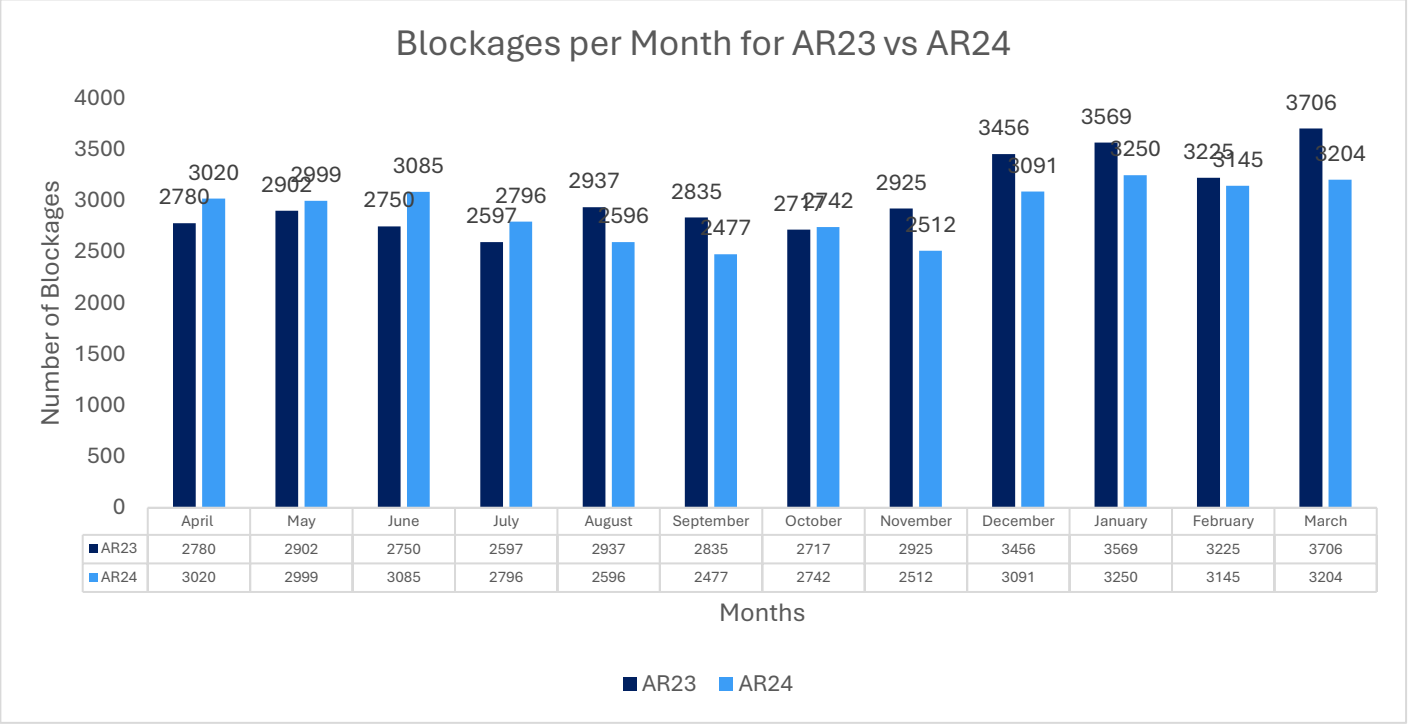
The confidence grade for this line is A3.

10.2.1 Lines B8.7 & B.8.8 Sewer Blockages

The number of blockages for AR24 is 34,917, compared to 36,399 in AR23. This is a reduction of 4% year on year.

AR24 saw an initial increase in the number of blockages over the first four months of the year in comparison to AR23. This was followed by a decrease in blockages from early summer, which continued through to the year's end. Additionally, whilst we did see some higher volumes as a result of storms, both in October and December 2023, the impact of these was less than had been expected (see Figure 42).

Figure 42: The number of blockages per month for AR23 vs AR24.



The small decline in blockage volumes could be attributed to a number of factors

- Differing weather patterns in AR24 compared to AR23,
- An increased number of flood mitigations being delivered,
- Increased focused on repeat incidents via Alternative Resolution Management Process
- Continued increased CCTV surveys

However, it is not possible to definitively quantify the effect of each of the above.

10.2.2 Lines B8.9-B.13 – Leakage

Line B8.9 Leakage

Total leakage MLE (post adjustment) as a percentage of Distribution Input (DI) is at 25% for AR24 and was also at 25% in AR23.

Line B8.10 Total Leakage (post-MLE Adjustment)

Scottish Water reports MLE leakage of 461.84 Ml/d for AR24 The AR24 leakage value is 8.13 Ml/d higher than the 453.71 Ml/d at AR23 on a like-for-like basis (see Table 50).

Table 50: Total leakage post MLE comparison.

Report Year	Top-Down Leakage (Ml/d)	Bottom-Up Leakage (Ml/d)	MLE Leakage (Ml/d)
AR11	757	693	699
AR12	661	617	629
AR13	617	561	575
R14	608	553	566
AR15	590	531	544
AR16	531	492	500
AR17	559	480	495
AR18	543	480	492
AR19	472	482	492
AR20	454	467	465
AR21	426	471	463
AR22	431	464	459
AR23	450	455	454
AR24	474	460	462

Line B8.11 Net Distribution input (DI) treated water (water put into supply)
AR24 saw a slight increase in Distribution Input of 2.21 Ml/d (to 1837.73 Ml/d) from 1835.52 Ml/d in AR23. Mid-May to mid-June 2023 saw an extended period of hot dry temperatures across all areas of Scotland. The distribution input rose by c200 Ml/d (10%) during this period. The winter brought a period of cold temperatures from late December through January. An increase in leakage (**Line A2.21**) which would normally have seen a similar increase in DI was offset by a reduction in Household (**Line A2.7)** and Non-household (**Line A2.10**) use.

For AR24, 1.79% of the data was estimated or constant and is down from 2.72% at AR23. This has remained within a range of 1-5% over the past fifteen years and is slightly above the fifteen-year average of 2.11%. There was no manually read data for DI (down from 0.73% at AR23 and 1.72% from AR22) with 98.21% based on telemetry data (AR23 96.56%).

Seven replacement meters were installed during AR24. The regional delivery model is continuing to provide a number of investment lines related to DI.

There were no large diameter meter changes during AR24.

Line B8.12 Leakage target
The target range is 438 to 453 Ml/d. Scottish Water uses a spot target of 449 Ml/d for AR24 to allow the calculation of **Line B8.13**.

Line B8.13 Leakage performance against the target
Scottish Water reports MLE leakage of 461.84 Ml/d for AR24 (rounded to 462 in the Performance and Prospects report), which is 12.84 Ml/d (2.78%) above the OPA target of 449 Ml/d for AR24. This is the first annual increase since 2007, when leakage started being recorded.
Very cold weather between December 2022 and January 2023 saw our leakage rate rise in many areas. We recovered well from these events but were impacted by an unseasonably cold period in March 2023. As a result, we entered AR24 with a higher leakage rate than expected.

An extended warm and dry period followed, and we saw further increased losses. Despite committing a high level of resources to achieve greater leakage savings it was not possible to suppress the rise in incidents before a greater than average winter increase.

We are responding to this by looking across all areas of our activity and trialling new approaches to return to our long-term trend of reducing leakage year-on-year. More information is contained in the Commentary for Table A2.

10.3 Investment – Unsatisfactory Intermittent Discharges (UIDs)

The allocation to MA005 for UIDs is currently £128m. This allocation is divided between two needs codes - Water Quality (WQ) - £36.9m and Aesthetic - £90.6m. As per the agreement with SEPA WQ will be prioritised to meet the measures set out within RBMP3.

The allocation of MA005 at the start of SR21 was £207m. However, following previous reductions, the latest review at IPS24.1, has further reduced the allocation from £146m to £128m.

As of end of April 2024, live spend is projected at £208.2m with a committed spend of £20.2m for 2024-27. Action has been taken which will significantly accelerate the pace of investment against this MA as follows:

- There is currently one construction project underway, at Lord Ancrum's Wood in Midlothian and we are forecasting delivery of between twelve and fourteen projects during the 2024/25 financial year.

- We are forecasting that 74 of the current 109 high priority UID needs can be delivered before December 2027, based on the current development programme and on the level of available funding for UIDs set out within IPS24.1. This includes a forecast of 'No build' outputs across Sewage Related Debris (SRD) and Water Quality (WQ) drivers that are evidenced and agreed with SEPA. So far nineteen 'No build' solutions have been agreed with SEPA.

- We will develop solutions for all 109 high priority UIDs by May 2025. Subject to affordability and Scottish Government Investment Group approval, we will deliver UID interventions with the priority focusing on WQ drivers.

- We have identified that 23 of the 109 high priority UID needs are emerging as complex to resolve and where further catchment planning work is required to identify solutions. We anticipate that strategic solutions resolving several needs will be optimal and expect these to be significantly expensive. The feasibility, priority and delivery timescale of these will require further discussion with SEPA.

- We will develop solutions for 59 additional Clyde catchment high priority UIDs identified through SR21 catchment aesthetic study. To maintain consistency, the output of this study has gone through the same verification/categorisation process (and SEPA agreement) as the previous high priority UIDs.

- Whilst the development focus has been on the original 109 high priority UID needs, early assessment work has started on eleven of the additional Clyde catchment needs and 26 of the medium priority needs due to their physical proximity to the 109 high priority needs. Work will begin on the remaining Clyde catchment high priorities and a proportion of the medium priority needs during 2025 and resources are currently being secured to support this development work.

- There are a further twelve of the 109 high priority UID needs for which there will likely be insufficient funding available to deliver solutions within this investment period based upon the current assumption on unit rates and IPS24.1 allocation and these will be confirmed post-December 2024, once the development work is completed.

- We will provide regular updates on progress and adjust the forecasts as more information becomes available.

- Current forecasts were developed using assumptions regarding unit pricing rates, typical construction durations and based on the current view of available funding. They are also based upon our understanding of specialist resource availability across the UK. We are investigating several options to support this development work and to reduce resource constraints, including the use of digital tools and resources from outside the UK. We will adjust the forecasts as more information becomes available and update, as necessary.

The outcomes of the successful delivery of MA005 intervention will be:

- Delivered solutions for high priority water quality UIDs by December 2027.
- Developed solutions for confirmed high priority UIDs where significant sewage related debris impacts on rivers have been confirmed.
- Agreed timetables for delivery of all the high priority UIDs and promoting to Scottish Government Investment Group for approval.

- Subject to funding being available, we plan to deliver these UID improvements by December 2027.
- Developed solutions for Clyde catchment high priority and medium priority UIDs which have a hydraulic link to the high priority UIDs. We will promote these as a priority for investment in the Ministerial Objectives for SR7.

10.4 Data

Line B8.1 - Mains bursts per 1000 km
The methodology for identifying and reporting burst data was revised and improved during AR22. The numbers reported for this return are derived from the approach in the methodology documentation dated February 2022 and is outlined in the commentary for Table E6, **Line E6.16** - Total Length of Mains, and **Line E6.19** - Water Mains Bursts; the base numbers used to derive the number for this line.

It is not feasible to forecast data for this line as burst data is impacted by weather.

10.4.1 Lines B8.2 & B8.3 - Sewer Collapses

Since the introduction of Salesforce, Network Analysts are only required to use Ellipse for assignment of fault codes. The reporting methodology has now been revised to report from Salesforce rather than by fault code from Ellipse. Reporting from Salesforce addresses the risk that a fault code has not been assigned. Ellipse Work Order numbers link the data contained within Salesforce and Ellipse. This change in reporting methodology has avoided any reduction in confidence grade which may have otherwise resulted from the new processes implemented when Salesforce was introduced.
It is not feasible to forecast **Line B8.3** due to not being able to forecast the total length of total sewers.

10.4.2 Lines B8.4 - B8.6 Discharges

The main data source informing additions/removals of intermittent discharges from the UID Register during the AR24 period is the inclusion of outputs from the SR15 and SR21 Environmental Study Programmes. 65 SR15 catchment studies and four SR21 catchment studies have been completed. The outputs from these studies (including identification of UIDs) have been discussed and agreed with SEPA with a prioritisation category for each UID assigned. Since AR23 all recently identified UIDs have been moved from a ‘holding list’ to the UID Register with all included within a newly developed ‘ID Register’ Power BI reporting tool.

The number of Unsatisfactory Intermittent Discharges is now shown, and managed, using a Power BI front end that is to be shared Business-wide and also with external stakeholders i.e. SEPA.

The Intermittent Discharge Register (ID Register) has been built to enable quicker access to commonly requested data relating to ID performance, such as ‘live’ Asset Inventory, CAR License data, Hydraulic Modelling outputs, and Unsatisfactory and Satisfactory classifications. It also makes it quicker and easier for Scottish Water employees to respond to FOI Requests and to share data with stakeholders. It also provides a standard secure template for managing and tracking additions/removals from the UID Register, replacing the previous spreadsheet-based approach.

Whilst Scottish Water has published plans (Improving Urban Waters Routemap - Scottish Water) for addressing the highest priority UIDs within the SR21 investment period, it is not possible to

forecast UID numbers for future years since performance is dynamic, is informed by new investigations and is impacted by customer behaviour, operational issues in the network and by the weather.

10.4.3 Lines B8.7 & B8.8 - Sewer Blockages

The data for this line is sourced from Scottish Water Customer Relationship Management Software (CRM), Microsoft Dynamics. This data has been collected since 2010, ongoing data cleansing and reporting methodology changes had seen a steep decline in volumes over the earlier years through to circa 2015. Since this time the data source, methodology and recording have been static. It is not feasible to forecast this data as it is impacted by customer behaviour and weather.

11 Table B9 – Security of supply index

11.1 Overview

AR24 is the third year of reporting Security of Supply Index (SoSI) and associated Water Resources data from the Supply Demand Balance (SDB) in the SR21 Investment Period, and the third consecutive year of reporting these metrics to WICS for use as an international comparator.

The format of the B9 tables is consistent with AR23, with the same six daughter tables (B9a to B9f) feeding information to the higher-level summary provided in Table B9. The six daughter tables provide a range of three Level of Service (LoS) intervals for each of two demand scenarios.

- Table B9: Summary overview of SoSI data and results
- Table B9a: SoSI - 1 in 40 Level of Service - Dry Year Annual Average
- Table B9b: SoSI - 1 in 40 Level of Service - Dry Year Critical
- Table B9c: SoSI - 1 in 100 Level of Service - Dry Year Annual Average
- Table B9d: SoSI - 1 in 100 Level of Service - Dry Year Critical
- Table B9e: SoSI - 1 in 150 Level of Service - Dry Year Annual Average
- Table B9f: SoSI - 1 in 150 Level of Service - Dry Year Critical

For each LoS interval reported, the only variation of input data to the SDB model is the hydrological yield, which is modelled at the differing service levels of increasing drought severity (represented using return periods). Demand, population, and all other areas of supply data are consistent between the reported tables, and reflective of directly measured data from AR24, or the best understanding of the current configuration and capability of supply assets.

The yield values used, and hence the resulting SoSI outputs, are currently calculated without any contribution from Drought Planning activities, and therefore represent a fixed asset position of supply capability. It is our intention that future development will allow us to represent Drought Planning resilience via the SDB, although the details of how and when this will be applied in practice are still in discussion.

Unless otherwise stated, this B9 table commentary will focus on results as reported in Table B9a: a one in 40-year drought return period LoS, using Dry Year Annual Average Demands. This maintains perspective with and comparison to the AR23 commentary and reflects the main focus of the internal assurance audit. No methodology, calculations or data differences exist between the different table outputs except for alternative hydrological yield values, and the use of either Dry Year Annual Average demand or Dry Year Critical demand as appropriate.

For AR24 the reported SoSI score for 1 in 40-year DYAA (Table B9a) is 48 points (summarised in **Line B9.4**). This is a reduction of six points overall from the AR23 position of 54 points. The worsening SoSI is principally driven by data revision to supply side data components in the SDB. Demand data measured over the AR23 period has remained largely similar: the total being 1,837.734 Ml/d Annual Average, an increase of 2.215 Ml/d from AR23 (0.12% difference). The population is up slightly to 5,350,503, an increase of 11,045 (0.21%).

The SoSI scores were calculated for a total of 189 Water Resource Zones (**Line B9.1**), which is the same reported number (and same zonal structure) as reported in AR23.

At Water Treatment Works (WTW) level, there was only one change where the Water Treatment Works at Dalwhinnie was replaced; the asset ID number changed from WTW000552 to WTW000828.

Of the 189 Water Resource Zones (WRZ), 49 are calculated to be in supply deficit using the 1 in 40 LoS (**Line B9.2**), and it is these zonal deficits that contribute to the overall SoSI position of 48, reduced from a perfect score of 100. The score of 48 is categorised as SoSI band ‘D’ (**Line B9.5**), being in the range of less than 50 points, and described as ‘Large deficit against target headroom’.

The OPA scores presented (**Lines B9.7 to B9.12**) are for reference only, using a planned SoSI score target of 91 that was originally set and attained during the SR10 period, and which aligned with the Water Resource Plans for that investment cycle. Since then, significant revision to the supply data and zonal structure have been introduced that effectively make this planned score outmoded. The revisions have all been undertaken as data and understanding of water supply assets has improved, thus increasing the understanding of supply risks to customers. These improvements directly support the primary function of the SDB as an evidence base for Water Resource related investment appraisals.

Purely for comparative purposes, the OPA contribution from SoSI (**Line B9.12**) is 6.25 weighted points. This is 6.25 points less than the 12.5 reported in AR23. The Performance Against Target element (**Line B9.10**) is the same as AR23 in the OPA conversion, but the SoSI Absolute Performance (**Line B9.11**) has fallen to 1.25 from 7.5 in AR23, as a result of falling from Band C to Band D (**Line B9.5**). This banding change, and the resultant loss of 6.25 points is direct consequence of the SoSI score in **Line B9.4** falling from a score of 54 in AR23 to 48 in AR24 (1 in 40-year DYAA Scenario from Table B9a).

The Water Available for Supply Index (WASI) is based on the percentage population in surplus WRZs for two different service levels, 1 in 40-years and 1 in 100-years, using the Dry Year Critical (DYC) demand scenario. Although the new layout enables Yield Levels of Service intervals of 1 in 40, 100, and 150 years to be reported, only the 1 in 40 and 1 in 100 intervals have historically been used for WASI. Table 51 below shows the history of reported values and includes the latest position for AR24 at the 1 in 40 and 1 in 100 intervals.

Table 51: History of reported values for 1 in 40 and 1 in 100 intervals.

Year	1 in 40	1 in 100
AR14	96.50%	77.60%
AR15	88.90%	71.50%
AR16	87.30%	77.30%
AR17	86.80%	82.20%
AR18	86.70%	70.10%
AR19	86.70%	71.40%
AR20	86.60%	75.90%
AR21	79.80%	61.40%
AR22	76.75%	55.19%
AR23	63.96%	56.85%
AR24	63.24%	52.60%
% Change (AR22 to AR	-0.71%	-4.25%

WASI is the direct equivalent of **Line B9.6** (Percentage in Population in Surplus Zones). The values in the above table are taken from the Dry Year Critical demand scenarios: TablwaB9b and B9d. An equivalent score for 1 in 150-year severity could be taken from the same reporting line, but from Table B9f, which results in a value of 38.95%, an increase of 4.75% from AR23.

For AR24 the WASI results for 1 in 40-year LoS is similar to AR23. There were several changes to WRZ that moved between surplus and deficit status (therefore impacting the Percentage of Population in Surplus Zones), but the overall balance remained relatively similar. For the 1 in 100-year scenario the negative change is slightly larger, and this is predominantly driven by a new deficit in the Daer and Camps WRZ. Although the deficit is small, 7.2% of the population, it moves category away from being in surplus.

Whilst SoSI gives a composite score across all WRZ, examining the breakdown of deficit banding into different categories of percentage deficit severity can give a more detailed and helpful picture.

Table 52 below shows, for AR24, the proportions of population and count of WRZ in each deficit band for the 1 in 40-year tables. Here most of the population and zones are either in surplus or the least severe band of deficit, which is indicative of deficits that are similar in scale to headroom uncertainty.

Table 52: Count of WRZ and population proportion in each deficit band for 1 in 40-year table for AR24.

Category	DYAA % Population	DYAA Count of WRZ	DYC % Population	DYC Count of WRZ
Band 1 (>=0% Surplus)	70.10%	140	63.24%	104
Band 2 (<0% to >-10% Deficit)	16.75%	26	20.39%	25
Band 3 (<=-10% to >-25% Deficit	10.75%	11	13.83%	30
Band 4 (<=-25% to >-50% Deficit	2.27%	7	2.39%	22
Band 5 (<=-50% Deficit)	0.13%	5	0.14%	8

11.2 Performance Trends

Table 53 shows the top 5 WRZ where SoSI has improved between the AR23 position and the AR24 outputs. The term WAFU is 'Water Available for Use' and is the zonally calculated supply capability, directly representing the supply side of the SDB. This is primarily constrained by asset capability (WTW capacity or Hydrological Yield of the Water Source) or Controlled Activities Regulations (CAR) environmental abstraction licences from SEPA.

Table 53: Top 5 WRZ where SoSI has improved between AR23 and AR24.

WRZ Name	AR23 SoSI Points Lost	AR24 SoSI Points Lost	SoSI Difference	WAFU Change (Ml/d)	WAFU Change Comment	DI Change %	Population Change %
Clatto & Lintrathen & Whitehillocks	5.07	1.52	-3.55	0.14	WTW Losses DI	-4.4%	0.0%
Muirdykes & Camphill	0.39	0.10	-0.29	0.01	WTW Losses DI	-2.3%	0.0%
Penwhapple	0.22	0.02	-0.20	0.01	WTW Losses DI	-8.8%	-0.2%
South Uist	1.12	0.95	-0.17	0.01	WTW Losses DI	-10.0%	-0.4%
Herricks	5.12	4.97	-0.15	0.01	RWML DI	-2.4%	0.9%

In all five zonal cases from the above table, it is changes in the Annual Average Distribution Input that have directly driven the changes in SoSI. There are smaller indirect improvements linked to the demand reduction, such as the lower corresponding rate of volumetric WTW losses.

By far the largest individual gain was in Clatto & Lintrathen & Whitehillocks WRZ, where lower demand contributed to a gain of 3.55 SoSI points, demonstrating again the sensitivity of SoSI to demand rate, particularly in WRZ with larger population proportions.

The top 5 WRZ where SoSI points have been lost in AR24 are dominated by the 6.72 points lost in the Fife WRZ. This zone was already in deficit in AR23, but the removal of a Dry Year Transfer assumption from the Supply Demand Balance has significantly worsened the SoSI score – i.e., an assumption that we could use a 7 Ml/d network connection at Kincardine to transfer water from Carron Valley WRZ into Fife was removed. Issues with the reliability of this infrastructure meant that it was no longer reasonable to assume it as a 'fixed asset' capability therefore this transfer

capability was effectively removed from the SDB planning scenario and the potential options available in Drought Planning.

Demand changes (Distribution Input) have predominantly caused the annual differences in the other four cases shown in the Table 54 below.

Table 54: Top 5 list of WRZ where SoSI points have been lost between AR23 and AR24.

WRZ Name	AR23 SoSI Points Lost	AR24 SoSI Points Lost	SoSI Differen	WAFU Change (Ml/d)	WAFU Change Comment	DI Change %	Population Change %
Fife	3.40	10.12	6.72	-6.73	Zonal Transfers	0.4%	0.0%
Inverness	10.38	11.55	1.17	-0.01	WTW Losses D	2.0%	0.4%
Assynt	7.13	8.22	1.10	-0.19	Zonal Transfers	2.2%	-0.1%
Turret	6.80	7.81	1.01	0.39	WTW Losses D	1.8%	0.2%
Killiecrankie Kenmore	1.89	2.20	0.30	0.00	WTW Losses D	4.4%	-0.4%

Whilst demand changes have been cited as causing significant changes to SoSI at individual WRZ level, the overall total of Distribution Input has remained remarkably consistent with the AR23 total. The variance is only 2.2 Ml/d (0.1%) additional demand in AR24, bringing the total Annual Average up to 1837.734 Ml/d.

11.3 Data

Updates to the SDB have continued during AR24 with a mix of planned and opportunistic improvements to the supply side data. The base configuration of WTW has had only one update, related to a new replacement WTW at Dalwhinnie:

- Internal replacement of WTW000552 Dalwhinnie to replacement works WTW000828 Dalwhinnie (WRZ000056 Dalwhinnie)

There is no resultant SoSI change at Dalwhinnie, this is a like-for-like replacement in respect of capacity.

The few data changes that affect the supply side of the SDB (Water Available for Use) can be summarized as follows:

- Four yield updates as a result of model improvements or reviews
- Two CAR Licence changes
- Fourteen WTW Percentage loss rate updates
- Six Peak Factor updates
- One Dry Year Transfer Volume update

Of these, only the change in Dry Year Transfer Volume in the Fife WRZ had a significant impact on SoSI. The changes to WTW Percentages did not translate to SoSI impacts, although instances where demand changed in the calculation of the WTW Loss volumes did contribute to an overall improvement in SoSI of around 1.6 points.

Yield updates have been responsible for notable changes in SoSI performance in previous AR data, but in AR24 the total contribution from the updates only represents a 0.01 point reduction.

In AR24 a small improvement programme was undertaken to investigate opportunities for directly analysing Raw Water Mains Leakage volumes using data from abstraction monitoring equipment, where possible. This is similar to the improvements made in AR23, which used metered data to help inform updates to the WTW Percentage Losses, except in AR24 the analysis was targeted on sites where a comparison could be made between abstraction data at the source (usually measured and the licenced point of abstraction for the CAR licence), and data taken from measurement at the WTW inlet.

The list of possible sites with this configuration is still a little uncertain due to the complexity of some of the monitoring plans, but overall, the opportunities are significantly smaller than the opportunity to investigate WTW losses directly (where analysis would compare the WTW Inlet data to the Distribution Input data). Analysis was performed at a total of nine sites. Of these results, three sites were robust enough to integrate into the SDB planning assumptions.

The analytical approach was similar to the WTW losses analysis, using an average difference between the seven-day rolling averages of the datasets for the 2023 calendar year data.
For the three sites that had a successful outcome, a fixed volume assumption for raw water mains leakage was adopted in the SDB, replacing the mains, length-based leakage assumption used for all other sites. The changes are summarised in Table 55 below:

Table 55: Raw Mains Losses updates for AR24

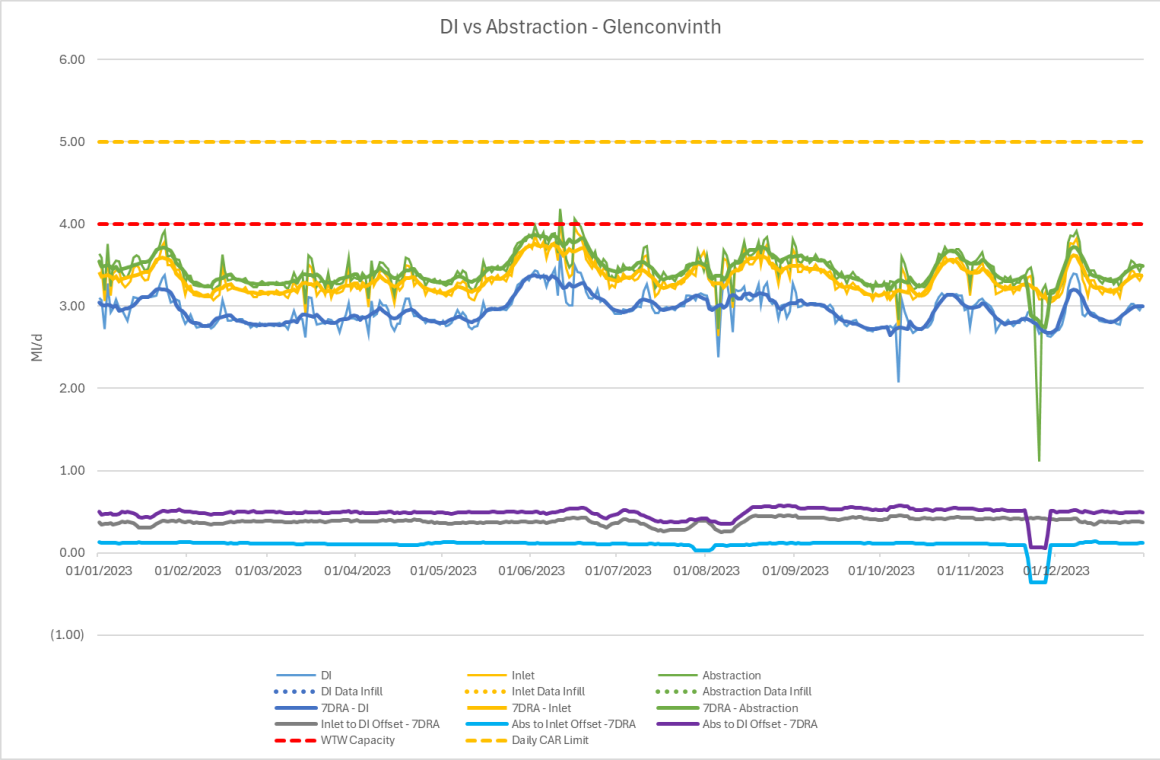
WTW Name	SDB RWML Vol Assumption	Abstraction to Inlet Average Metered Difference	Change in SDB Raw Mains Leakage
Glenconvinth	0.089	0.102	0.014
Savalbeg	0.065	0.004	-0.060
Port Charlotte	0.033	0.004	-0.029

Of the updated sites, only one (Savalbeg) was sensitive to SoSI by being in or near a position of reported deficit. However, a small improvement in the deficit for this zone was driven primarily by a modest decrease in demand rather than the supply data updates.

Figure 43 shows an example of the analytical data with Abstraction, Inlet to WTW, DI, and the differences plotted, with the emphasised traces as rolling seven-day averages for improved correlation. This example is Glenconvinth WTW, and the measured volumetric difference between WTW inlet and DI equated to a 12% loss through the overall treatment processes, and the corresponding difference between Abstraction and WTW Inlet equated to 0.102 Ml/d.

In future years we expect this analysis will be expanded and integrated with a rolling programme of updates to both WTW Losses and Raw Water Mains Leakage, which we will be able to analyse in the same template at the same time, where possible.

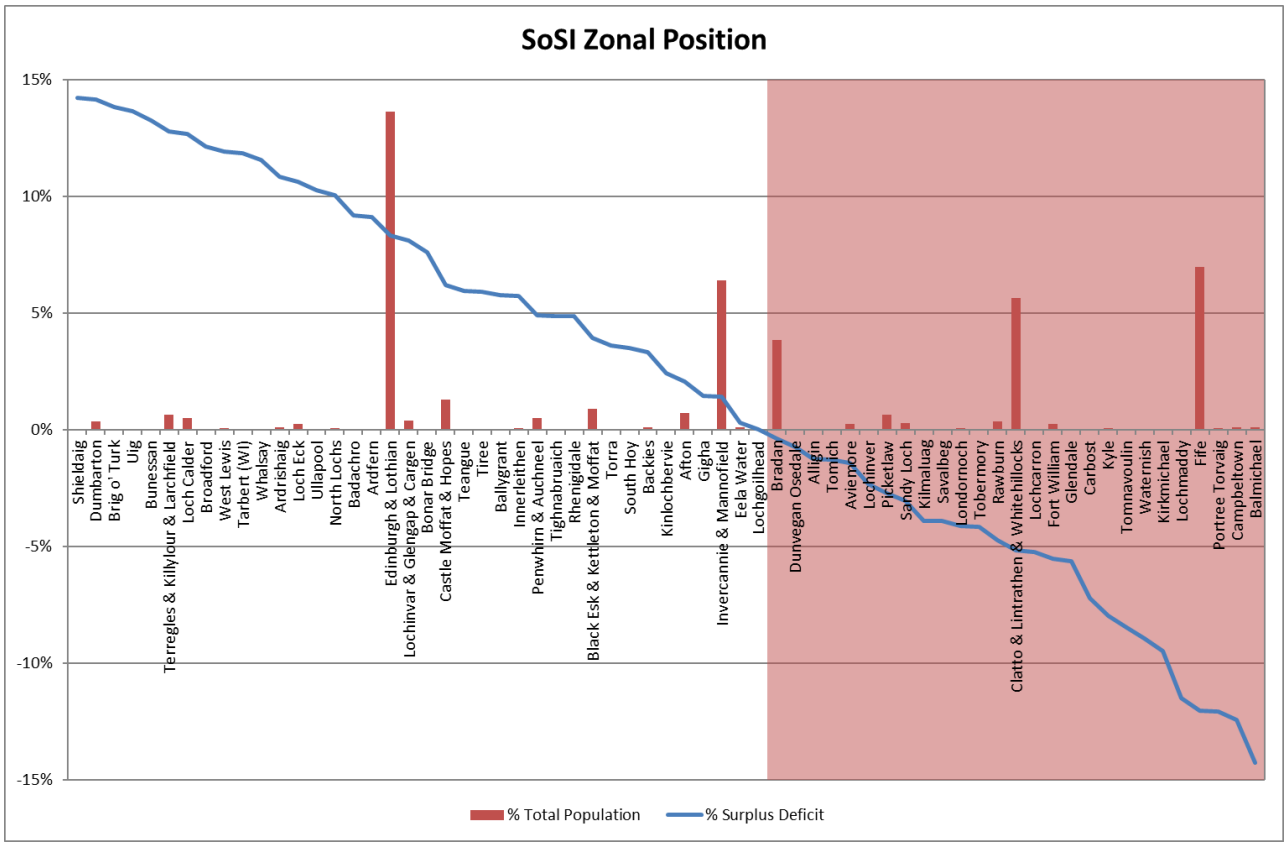
Figure 43: Analytical data example – Abstraction and DI data for Glenconvinth



As an expansion of the analysis around SoSI, it is often useful to have visibility of the WRZ that are near to the tipping point of being in either SDB surplus or deficit. Figure 44 shows the zones that fall within the range of +/- 15% surplus or deficit and displays the % proportion of total population that is reported for each zone. Zones with large populations drive larger contributing SoSI scores, so this approach is useful for easily observing which zones may be at risk of going into deficit, or where the opposite condition applies.

The red shading to the right-hand side of the chart indicates the deficit zones displayed, i.e., all the zones that have a deficit in the range of <0 to -15%. The blue plotted line of % surplus/deficit crosses zero on the x axis at the point where surplus zones transition to deficit zones. The full extent of all deficit zones extends beyond -15% and is not displayed. The usefulness of this chart lies in recognizing which zones are close to surplus/deficit boundary and are perhaps prone to crossing this boundary in future years, influencing metrics such as WASI.

Figure 44: SoSI Zonal Position. Zones that fall within the +/- 15% surplus deficit range and the percent of the total population that is reported for each zone.



12 Table B10: Scottish Water compliance with Water Quality Regulations

Acronyms and terminology used:

Term	Acronym and/or alternative
Annual Water Quality Report	AWQR
Consumer contacts	Also referred to as Customer contacts
Consumer tap samples	Also referred to as Customer tap samples or zonal sample
Drinking Water Quality Regulator	DWQR
Escalated complaints	Also referred to as second tier complaints
Enforcement Notice	EN
Overall Performance Assessment	OPA
Recast Drinking Water Directive	rDWD
Scottish Water	SW
Treatment Water Storage	TWS (Also referred to as Service Reservoir)
Water Industry Commission f Scotland	WICS
Water Treatment Works	WTW

12.1 Introduction

The AR24 Table B10 return is a calendar year submission of 2023 data and includes:

- Parametric compliance at water treatment works (WTW), treated water storage points (TWS), also referred to as service reservoirs (SRs), and consumer taps.
- Drinking Water Quality Regulator (DWQR) Enforcement Notices (ENs).
- Scottish Water (SW) Letters of Commitment (LOC) to DWQR.
- DWQR water quality incidents.
- Water quality consumer contacts (also referred to as customer contacts).
- Escalated water quality complaints (also referred to as second tier complaints).

Commentary for this section also covers:

- Differences between DWQR and AR24 reporting timescales and their effect on AR24 confidence grades for water quality incidents and escalated complaints.
- The Public Water Supplies (Scotland) Amendment Regulations 2022 that came into effect on 1 January 2023. Their impact on AR24 parametric compliance calculations at consumers' taps through the addition of new compliance parameters in 2023 and a reduction in test frequencies.
- A look ahead to the introduction of risk-based sampling frequencies for 'Group B' parameters in 2024 and their impact on future AR25 parametric compliance calculations at consumer taps.
- Supply point monitoring and its impact on parametric compliance calculations at consumer taps.
- Explanation of parametric compliance and Overall Performance Assessment (OPA) calculations and their differences, as requested by WICS' change log that adds **Line B10.15b** Total compliance including *Cryptosporidium* compliance (for OPA).

DWQR Annual Water Quality Reporting & AR24 Timescales

DWQR regulates the quality of water supplied by Scottish Water, ensuring that drinking water supplies meet the requirements of the Public Water Supplies (Scotland) Regulations 2014 (as amended in 2017 and 2022). Publication of the DWQR Annual Water Quality Report (AWQR) happens around August of each year, after the population of Table B10. For this reason, DWQR approval of Table B10 has not yet been requested for AR24 as their 2023 dataset is still being processed**.** The DWQR AWQR is used to confirm the number of water quality incidents (**Line B10.18**) and escalated complaints (**Line B10.23**) and so confidence grades for these data have been entered as B2 and BX, respectively. Potential changes to these figures are noted in section 12.3 Performance Trends.

The Public Water Supplies (Scotland) Amendment Regulations 2022

The Public Water Supplies (Scotland) Amendment Regulations 2022 came into force on 1 January 2023 and transposed the revised Drinking Water Directive (2020/2184) into Scottish law. The Amendment Regulations introduced new regulatory parameters and changed the way that sample frequencies at consumer taps are calculated compared with previous years. Table 56 lists the seven new parameters, often referred to as 'revised Drinking Water Directive' or 'rDWD' parameters, and their prescribed concentration values (PCVs). Compliance reporting for rDWD parameters is at consumer taps and their parametric compliance data has been added to the 'All other parameters' **Line B10.13**. The impact of rDWD parameters on parametric compliance is discussed further in Section 12.3 Performance Trends.

Table 56: New regulatory parameters added in 2023

Parameter name	Unit of measur	PCV limit	Parameter type
Bisphenol-A	µg/l	2.5	Industrial chemical
Chlorate	mg/l	0.25	Disinfection by product
Chlorite	mg/l	0.25	Disinfection by product
Halo Acetic Acids (HAA5)	µg/l	60	Disinfection by product
Microcystin-LR	µg/l	1.0	Algal taste & odour
Sum of PFAS	µg/l	0.1	Industrial chemical
Uranium	µg/l	30	Radiation

Units and PCV limits are as described in the regulations.

The Amendment Regulations also changed the monitoring regime for samples taken at consumer taps, moving away from population-based sampling frequencies to distribution input volume-based frequencies. To comply with the Amendment Regulations a revised consumer tap monitoring program was introduced in 2023. This has resulted in a drop of over 15,000 tests, which makes maintaining percentage compliance performance more challenging as while we take less samples, every failure has a larger impact. This means that 2023 will not be comparable with previous years and with the addition of risk-based sampling from 2024 onwards, future year on year compliance comparisons will be made more difficult. WTW and SR monitoring frequencies were not changed by the Amendment Regulations and their 2023 percentage compliance is comparable with previous years.

Risk based consumer tap sampling frequencies from 2024 onwards

The Amendment Regulations also require the sampling frequency for 'Group B' parameters taken at consumer taps to be risk based, meaning those at a higher risk of failure will be sampled more frequently, and those at low risk, less. This is likely to change on an annual basis. The more frequently monitored 'Group A' parameters do not change because of risk assessments. This change reflects the underlying principles of the recast Drinking Water Directive i.e., assessing and managing risk and using regulatory monitoring to verify the risk assessment and management process, rather than as a measure of compliance. These risk-based frequency changes were introduced from January 2024 onwards and will be explained in more detail in AR25.

Supply Point Monitoring

Compliance for each new rDWD parameter is reported at consumer taps. However, 'Sum of PFAS' was sampled at WTW throughout 2023. When consumer tap monitoring is substituted for WTW monitoring it is defined as supply point monitoring and the WTW test numbers must be converted to consumer tap tests, for example where a WTW supplies two regulatory supply zones, a test at the WTW counts as two consumer tap tests. Radon, which was introduced as a regulatory parameter in 2016, is the only other regulatory parameter also monitored at supply points. This scaling up of test numbers would also apply to any PCV failures, although none were measured at supply points during 2023. A summary of supply point tests and their scaled-up numbers are provided in Table 57 below showing an increase of 668 tests at consumer taps.

Table 57 Scaling up of supply point tests to consumer tap test numbers 2023

Parameter name	Tests at supply point	Tests at consumer ta	Difference
Radon	41	63	22
Sum of PFAS	644	1290	646
Total	685	1353	668

Parametric compliance and overall performance assessment (OPA) calculations

Total compliance (**Line B10.15a**) and OPA (**Line B10.15b**) both calculate percentage compliance that divides annual PCV failure numbers by test counts, and both include WTW, SR, consumer taps and *Cryptosporidium* tests. However, there are differences between the two calculations.

The Total compliance (L**ine B10.15a**) figure is calculated from a dataset that combines twelve sample data returns submitted to DWQR monthly. Data is extracted and submitted to DWQR two months in arrears, with the January 2023 file extracted and submitted to DWQR in March 2023 and the final December 2023 in February 2024. The final Total Drinking Water Quality (TDWQ) figure, which is used in OPA calculations is based on a full year 2023 extract downloaded in May 2024. This will reflect any subsequent corrections that have occurred to sample results and may differ slightly from the monthly return files submitted to DWQR.

Two TDWQ figures have been calculated for 2023 using the full year extract, an unadjusted figure and an adjusted figure. The adjusted figure removes the seven new rDWD parameters from the dataset to allow it to be used as a continuity metric within the OPA. Since the adjusted figure has been used in the OPA calculation it is this figure that has been entered into **Line B10.15b**. Discussions with DWQR are ongoing, to agree how year to year performance will be assessed, as **Line B10.15a** will be affected by the addition of rDWD parameters and risk-based sample frequencies.

Differences between each calculation are explained in more detail in section 12.3 Performance Trends.

12.2 Overview

Table 58 summarises PCV failures at assets for 2023 compared to the previous four years, except for *Cryptosporidium* which notes numbers of samples containing viable oocysts. Total annual test numbers are also included for information. COVID-19 restrictions impacted the 2020 and 2021 regulatory zonal programs and WTW and SRs were used as substitutes for consumer tap samples during these years. All regulatory zonal samples were taken from consumers taps during 2022, but the sample program was compressed into a shorter period (24/01-31/12) to avoid COVID-19 restrictions in place during the first three weeks of the year. 2019 and 2023 monitoring programs were unaffected by COVID-19 restrictions. 2023 was the first year that new rDWD parameters were introduced by the 2022 Amendment Regulations and the final 'Adj-2023' column is included for information and calculates performance metrics for 2023 with the rDWD parameters removed.

Table 58: Overview of water quality performance 2019-23

Metric	2019	2020	2021	2022	2023	Adj-2023
Water treatment works (WTW-final fails	43	24	24	25	30	30
Cryptosporidium no. viable oocysts (WTW-final)	8	6	10	19	8	8
Service reservoirs (SR) fails	78	60	46	52	72	72
Consumer tap (Zonal) fails	114	73	110	116	134	101*
Total fails	243	163	190	212	244	211
Total test numbers	307,659	300,904	300,314	298,389	277,762	272,969

*Excluding 33 PCV failures attributed to rDWD parameters (WTW, *Cryptosporidium* & SR figures are not adjusted)

The 'Consumer tap' and 'Total fails' figures have changed since audit due to a reporting error made in the lead data. Customer tap lead tests increased from 428 to 585 with the additional 157 samples containing two PCV failures, increasing lead failures from 0 to 2 and Total fails from 242 to 244. The reporting error is described in more detail in Section 12.3 Performance Trends.

Figures show that water quality compliance remains high; however, we continue to experience risks associated with the new water quality regulations, changes in consumer demand and an aging asset base. We have seen weather patterns consistent with climate change projections with increased extremes of dry and wet conditions and variability through the year. This can lead to challenges in deteriorating raw water quality impacting treatment capability and treated water storage. Work is underway to further refine the risks climate change scenarios present to each water source and associated treatment works to inform future investment. We continue to better understand the risks within our supply systems and share these with DWQR.

12.3 Performance Trends

12.3.1 Lines B10.1-B10.14 - Parametric Compliance at WTW, SR & Consumer Taps

Lines B10.1-B10.14 summarise drinking water quality performance in 2023 by asset type and parameter name, including test numbers, PCV failures and percentage compliance.

Water Treatment Works

Heavy rainfall in July 2023 led to deteriorating quality of some sources and impacted on WTW performance in 2023 with 8 coliform bacteria failures. Figure 45 shows that 2023 had the wettest July out of the past four years. Between 2019-23 the warmest May and June were also both recorded in 2023 (Figure 46). However, the final 3 months in 2023 revealed a similar performance to 2022 for both asset types. Table 59 summarises PCV failures measured at WTW during 2023 and the previous four years. WTW performance (30 fails) is still significantly better than 2019 (43), but lower than the last 3 years, with 9 fails occurring in July 2023 alone.

Table 59: Summary of water treatment works PCV failures 2019-23.

Parameter	2019	2020	2021	2022	2023
Coliform Bacteria	32	18	16	18	26
E. coli	3	1	2	0	1
Nitrite	0	0	0	0	0
Turbidity	8	5	6	7	3
Total	43	24	24	25	30

Figure 45 Year on year plot of monthly Scotland rainfall data 2019-23 (MET Office)

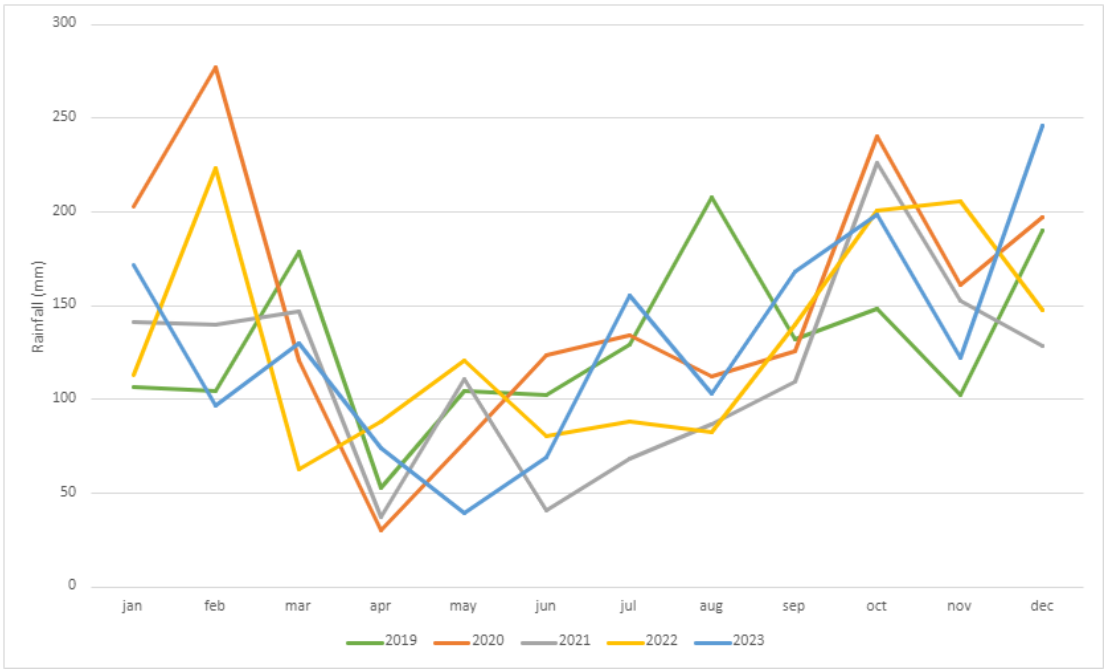
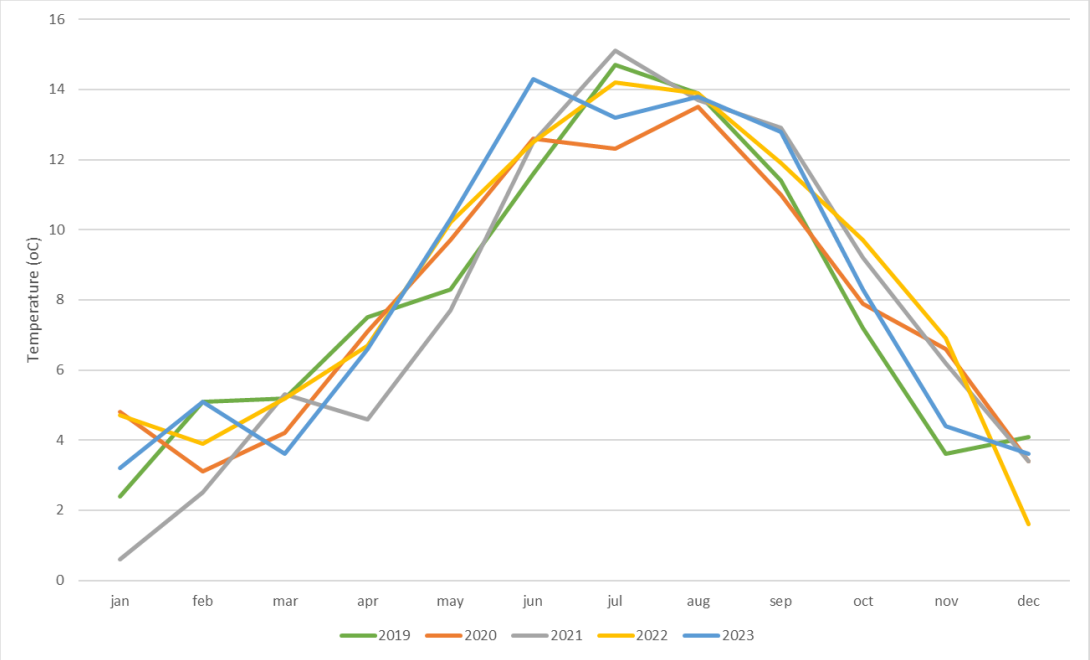


Figure 46 Year on year plot of monthly Scotland temperature data 2019-23 (MET Office)



Service Reservoirs

Table 60 summarises PCV failures measured at SRs during 2023 and the previous four years. SR performance remains significantly behind the performance in AR23 with 72 failures, with the highest number of failures since 2019. Whilst we have increased investment significantly since 2019 in tank maintenance to lower the overall risk position, periods of heavy rainfall and warmer weather during summer 2023 have exposed the remaining vulnerabilities in the treated water storage network which we are addressing under the DWQR Enforcement Notice, (Water Industry (Scotland) Act 2002, Enforcement Notice Under Section 10 (1), Treated Water Storage Points).

Table 60: Summary of service reservoir PCV failures 2019-23.

Parameter	2019	2020	2021	2022	2023
Coliform Bacteria	72	54	44	49	70
E. coli	6	6	2	3	2
Total	78	60	46	52	72

The DWQR Enforcement Notice in relation to treated water storage (TWS) points was issued in 2023 and we continue to deliver the actions relating to the Notice. Our agreed enhanced monitoring of TWS with integrity issues started in January 2024. We have an agreed delivery profile for providing the ability to bypass all tanks for cleaning and inspection. We have completed the inspection of all TWS that had not been inspected for 10 years; and are working on the risk-based plan and quarterly delivery profile to complete internal inspections and remedial works of TWS points to be agreed with DWQR by 31 May 2024. At the end of January 2024, we achieved our target of cleaning 500 TWS in the financial year, two months earlier than planned.

Consumer Taps

We have previously highlighted the risk to water quality performance at consumer taps due to the introduction of new drinking water standards. In 2023, there were 23 chlorate failures and 10 Halo Acetic Acid failures. On chlorate we continue to work to improve performance, changing chemical strengths and reducing storage times whilst developing options for cooling and mixing at higher-risk bulk store sites, which could be implemented before summer 2024. Halo Acetic Acid (also known as HAA5 Total) failures are far more challenging to address, most likely requiring WTW enhancement instead of optimisation, and we are carrying out research with Cranfield University to understand the risks and needs better. A summary of test count and failure numbers for each of the new parameters is provided in Table 61 below and this data has been added to the 'All other parameters' **Line B10.13**.

Table 61: Summary of new parameter test counts and PCV failures

Parameter name	No. of tests at consumer taps	No. of PCV failures
Bisphenol-A	588	0
Chlorate	585	23
Chlorite	585	0
Halo Acetic Acids (HAA5 Total)	576	10
Microcystin-LR	584	0
Sum of PFAS*	1,290*	0
Uranium	585	0
Total	4,793	33
*Converted supply point figure see Section 12.1 Supply Point Monitoring		

The Amendment Regulations also changed the monitoring regime for samples taken at consumers taps, moving away from population-based sampling frequencies to distribution input volume-based frequencies. To comply with the Regulations, in 2023, a revised consumer tap monitoring program was introduced. This has resulted in a drop from 134,800 consumer tap tests in 2022 to 113,454 in 2023. **This means that 2023 percentage compliance will not be comparable with previous years.**

Table 62 summarises consumer tap PCV failures, test numbers and compliance figures for 2023 and the previous four years. The final 'Adj-2023' column is included for information and calculates performance metrics for 2023 with the rDWD parameters removed and shows a similar compliance figure compared with 2022. The 2023 unadjusted figure of 99.88% shows the impact of both the additional rDWD failures and reduced test numbers.

Tests are routinely scheduled for multiple reporting purposes to optimise the number of sample visits. In 2023, 585 lead tests had a regulatory purpose, but 157 of these were also scheduled for Lead Strategy purposes. Purposes have a hierarchy in our systems that should ensure that regulatory tests are given priority and reported first, however in this case the regulatory lead and lead strategy purposes were given equal priority leading to the under-reporting of regulatory tests that included two PCV failures. The two lead PCV failures were reported as water quality events and investigated in the usual way. This issue has been raised as an event in Enablon, our quality management system, so that the procedures can be reviewed and updated to prevent this from happening again.

Table 62: Summary consumer tap parameters failing PCV limits between 2019-23 and annual zonal test counts.

Parameter	2019	2020	2021	2022	2023	Adj. 2023
Aluminum	0	2	2	1	3	3
Chlorate*	-	-	-	-	23	**
Clostridium	3	0	3	1	1	1
Coliform Bacteria	37	20	25	38	38	38
Copper	0	0	0	1	0	0
E. coli	2	2	2	4	4	4
Enterococci	1	1	2	0	1	1
Halo Acetic Acid (HAA5 Total) *	-	-	-	-	10	**
Iron	37	21	22	29	22	22
Lead	7	2	4	6	2	2
Manganese	10	15	33	17	10	10
MCPA	1	0	1	0	0	0
Nickel	1	7	11	1	0	0
Nitrite	3	0	1	2	4	4
Odour	5	0	0	8	9	9
pH	1	1	2	3	1	1
Taste	2	0	0	4	3	3
THMs	3	1	2	1	0	0
Turbidity	1	1	0	0	3	3
Failure summary	114	73	110	116	134	101
Consumer tap test count	137,783	134,610	136,686	134,800	113,454	108,661
Consumer tap complia %***	99.92	99.95	99.92	99.91	99.88	99.91

*rDWD parameter

**Adjusted figure with rDWD PCV failures (33) and tests (4,793) removed for information

***Consumer tap compliance % figures have been rounded to the nearest two decimal places.

Line B10.15 - *Cryptosporidium* at Water Treatment Works

Table 63 summarises *Cryptosporidium* performance metrics for 2023 and the previous four years for comparison. Following a peak of 57 detections in 2022, there was a focus on *Cryptosporidium* in 2023 that included investment in a membrane team and new water quality instrumentation. During 2023, *Cryptosporidium* detections reduced to 11 and three of these were rendered harmless by UV treatment at Turriff (2) and Portree Torvaig WTWs (1).

Table 63: Summary of WTW *Cryptosporidium* performance 2019-23.

Parameter	2019	2020	2021	2022	2023
Detection	38	46	25	57	11
Viable oocysts	8	6	10	19	8
UV treated	30	40	15	38	3

One viable detection was from Mannofield WTW and work to install UV irradiation on each RGF outlet was completed in March 2024 as required by an Enforcement Notice issued in 2023. Two viable oocyst detections were measured at Alexandria WTW in February and December 2023, a multidisciplinary team is looking at possible causes and developing an action plan to reduce the risk. Improvement works relating to *Cryptosporidium* detections at Turriff WTW are on-going to reduce the risk until a replacement membrane filtration plant is built, in line with an existing enforcement notice. Bonnycraig WTW was replaced by a new membrane works in December 2022 and no *Cryptosporidium* detections have been measured since the new works came into supply.

Line B10.15a - Total compliance including *Cryptosporidium*

Total compliance (**Line B10.15a**) is calculated from a dataset that combines twelve sample data returns submitted to DWQR monthly. Data is extracted and submitted to DWQR two months in arrears, with the January 2023 file extracted and submitted to DWQR in March 2023 and the final December 2023 in February 2024.

Total compliance (**Line B10.15a**) calculates percentage compliance from total failures divided by total tests at all assets and the formula is given below. The calculation includes rDWD test and failure numbers, which are a subset of the 'All other parameters' group.

$$DWQR\ compliance\ B10.15a = 100 - \left[\left(\frac{WTW\ fails + SR\ fails + Customer\ tap\ fails + No.\ viable\ oocysts}{WTW\ tests + SR\ tests + Customer\ tap\ tests + Cryptosporidium\ tests}\right) x100\right]$$

This calculation gives a Total compliance figure of 99.91% from 244 failures and 277,762 tests.

Two failures submitted to DWQR in the return of February 2023 data were later found to be reporting errors that have subsequently been corrected in Scottish Water's LIMS database and no longer appear as failures in our corporate dataset. The results related to the same sample which was diluted ten-fold and re-analysed due to excessive non-coliform bacterial growth and analysis of the diluted sample showed no presence of either coliform bacteria or *E. coli*. The diluted result was initially flagged as reportable at <10 CFU/100ml for both parameters, which appeared as PCV failures in the system despite no presence of either coliforms bacteria or *E. coli*. Additional checks are now being made to catch this type of error earlier prior to the submission of data to DWQR.

Line B10.15b - Total compliance including *Cryptosporidium* compliance (for OPA)

Line B10.15b Total compliance including *Cryptosporidium* compliance (for OPA), like **Line B10.15a**, calculates percentage compliance that divides PCV failure numbers by test counts and includes WTW, SR, consumer tap and *Cryptosporidium* tests.

However, the final Total Drinking Water Quality (TDWQ) used in OPA calculations is based on a full year, 2023 extract which was downloaded in May 2024. This will reflect any subsequent corrections that have occurred to sample results. As a result of this, the final failure and test numbers may differ slightly from the monthly return files submitted to DWQR, and the OPA figure does not include the two microbiological reporting errors noted in the previous section. These subsequent amendments produce an annual dataset of 242 failures and 277,759 tests which gives a percentage compliance figure (unadjusted for rDWD) of 99.9129%.

A further modification has been applied to the OPA figure, removing the seven new rDWD parameters, to allow it to be used as a continuity metric within the OPA. This removes the 33 rDWD PCV failures and tests, giving a rDWD-adjusted compliance score of 99.9234% which is

being used for OPA. Table 64 provides a summary of the DWQR and OPA-reported compliance calculations. Figures are reported at face value and not rounded up or down.

The OPA (rDWD adjusted) figure of 99.9234 has been entered into Table 64.

Table 64 Comparison of DWQR compliance and OPA compliance calculations

	TDWQ for OPA		DWQR	
	Total Unadjusted	rDWD adjusted used in OPA (B10.15b)	Total (B10.15a)	rDWD adjusted
Fails	242	209	244	211
Tests	277,759	272,965	277,762	272,969
Comp%*	99.9128	99.9234	99.9121	99.9227

*Figures are reported at face value and not rounded up or down.

Adjustments and differences between calculation methods could be made clearer by adding rDWD parameters to Table B10 as individual lines or as a separate group. Also, the section header 'Total Compliance (for OPA)' could be renamed 'Total Compliance' for clarity as **Line B10.15a** is not used for OPA.

	Total Compliance (for OPA)			Total compliance	CG
B10.15a	Total compliance including Cryptosporidium compliance	%	C	99.91	A1
B10.15b	Total compliance including Cryptosporidium compliance (for OPA)	%	C	99.92	A1

12.3.2 Lines B10.16-B10.18 – Enforcement, Letters of Commitment and Incidents

Enforcement Notices (EN)

Five ENs in place during 2023 are listed in Table 65 below. The Inellan EN was signed off as complete in 2023 and ENs at Mannofield WTW and Turriff WTW have been discussed in the previous parametric compliance section at **Line B10.15** - *Cryptosporidium* at Water Treatment Works.

Table 65: Sites where Enforcement Notices were in place during 2023.

Site	Reason	Status
Inellan	Drinking Water Distribution Network Management Improvements	Closed in 2023
Mannofield WTW	Cryptosporidium	Issued 2023
Turriff WTW	Cryptosporidium	Issued Pre-2022 active
Pan-Scotland	Contravention of Risk Assessment Requirements	Closed 2024
Pan-Scotland	Treated Water Storage (TWS) Points	Issued 2023

Over the last 3 years we have developed our Water Supply Risk Management (WSRM) system to meet regulatory requirements and allow closure of the related Contravention of Risk Assessments EN. A Stage 2 Implementation Audit was undertaken by Lloyds Register on 12 December 2023. All outstanding Major Non-Conformances had been satisfactorily addressed and DWQR provided Certification of our WSRM system to BS EN 15975-2:2013. We have agreed to a programme of surveillance audits by Lloyds Register for the three-year period of certification, with the first such visit scheduled for 13 June 2024.

A DWQR Enforcement Notice in relation to TWS Points was issued in 2023 and progress towards meeting its requirements are discussed earlier in this Commentary in Section 12.3.1 - SR performance trends.

Letters of Commitment (LOC)

No LOCs were issued or closed during 2023 and the table of nine LOCs reported in 2022 and 2023 remain the same and are listed in Table 66.

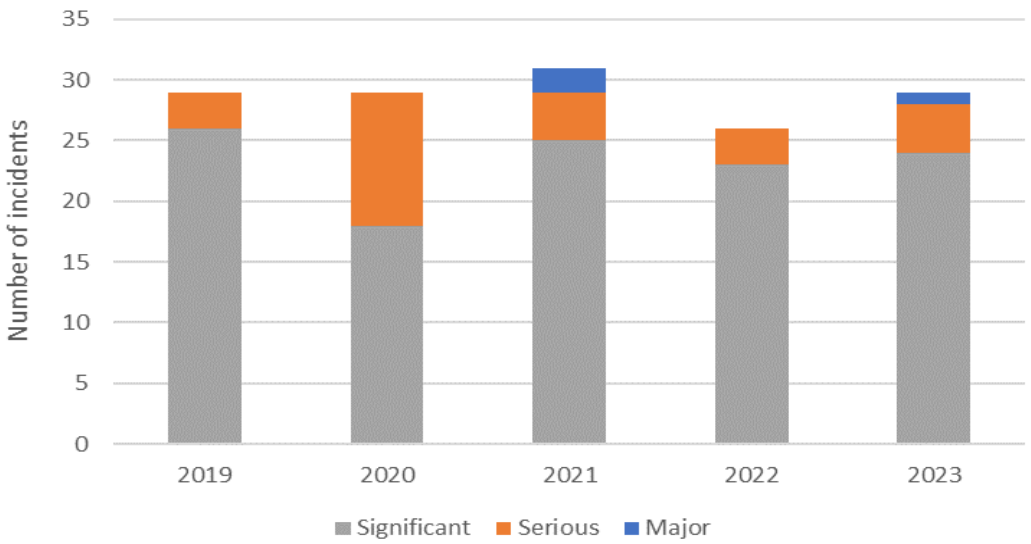
Table 66: Sites where Letters of Commitment were active during 2023.

Site	Reason	Status
Bradan WTW	Microbiological Risk	Issued Pre-2022 Active
Black Esk WTW	Manganese	Issued Pre-2022 Active
Carron Valley WTW	THM/Organics	Issued Pre-2022 Active
Daer WTW	Manganese	Issued Pre-2022 Active
Glenfarg WTW	Taste & Odour	Issued Pre-2022 Active
Herricks WTW	Cryptosporidium	Issued Pre-2022 Active
Pan-Scottish Water	Manganese strategy	Issued Pre-2022 Active
Rosebery WTW	Taste & Odour	Issued Pre-2022 Active
Turriff WTW	pH Adjustment	Issued Pre-2022 Active

Water Quality Incidents

DWQR Annual Water Quality Report (AWQR) is being processed and used to confirm the number of water quality incidents (**Line B10.18**). As a result, the confidence grade for this figure has been entered as B2 and could change. Table B.10 will be reviewed when the AWQR is published, and any necessary amendments will be made. At the time of audit in April 2024, 28 water quality incidents had been declared, since then DWQR has declared one further 2023 incident (Assynt WTW, declared 03/05/2024) taking the number up to 29, which is three more when compared with 2022. Annual incident numbers for 2019-2023 by DWQR incident category are shown in Figure 47 below.

Figure 47: Annual incident numbers for 2020-2023 by DWQR category.



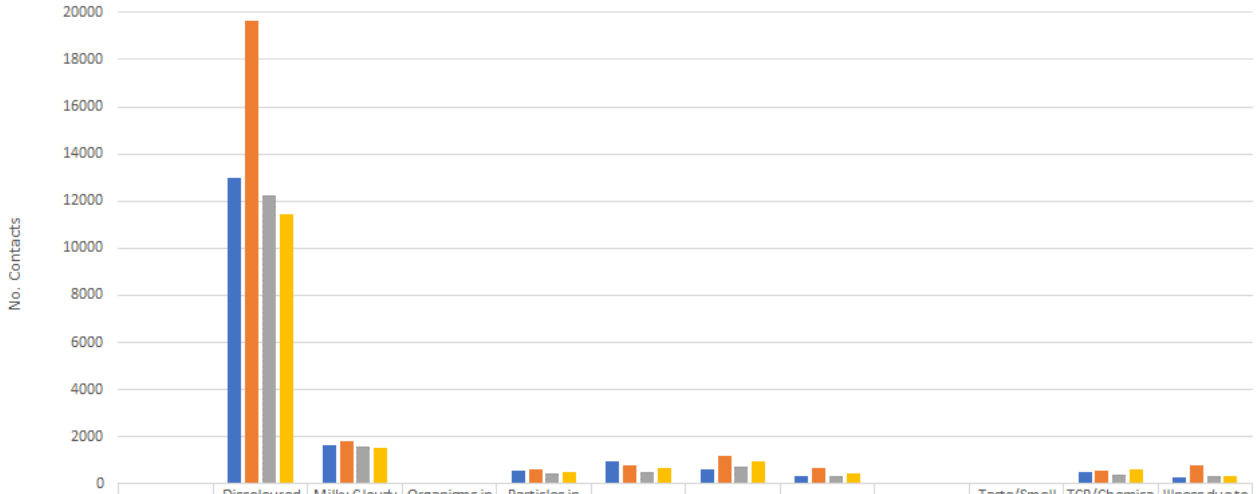
In 2023 there were three repeat incidents at Picketlaw WTW relating to loss of control of treatment and the works is due to be mained out in October 2024. There were also two repeat incidents for Lintrathen WTW where an auto-shutdown, run to waste and a disinfection project is currently being progressed.

DWQR classified the hydrocarbon taste and odour incident at Benbecula WTW as major. The root cause of this event was fuel contamination into the WTW raw water inlet chamber that then passed forward into the WTW treatment process and some residual components of the fuels entered the supply resulting in “do not use” restrictions for consumers. Actions are being progressed to ensure there can be no further risk to the raw water and water supply from standby generators and their fuel storage at Benbecula WTW and also wider learning to identify and mitigate any risks from fuel storage at all Scottish Water WTWs.

12.3.3 Lines B10.19-B10.22 - Consumer Contacts to Scottish Water

Water quality consumer contacts are submitted to DWQR quarterly with the 2023 return completed in February 2024. 16,552 contacts were reported in 2023 compared with 16,618 in 2022. Figure 48 summarises contacts data for the past four years grouped by DWQR contact category.

Figure 48: Annual number of contacts for each Water Quality Issue for 2020-2023.



	Colour Other	Discoloured Water	Milky Cloudy Water	Organisms in Water	Particles in Water	Chlorine	Earthy/Musty	Metallic	Solvent/Fuel	Taste/Smell Other	TCP/Chemical	Illness due to Water
	Discoloured					Taste/Smell						Illness
2020	69	12989	1660	40	553	985	621	356	31	27	525	286
2021	9	19645	1827	34	596	815	1163	649	16		543	786
2022		12251	1563	32	469	522	725	347	13		381	315
2023		11437	1532	39	487	693	946	426	32		608	352

The 2021 peak of 19,645 WQ Discoloured contacts shown in Figure 48 related to low rainfall which led to many reservoirs in the south and west drawing down to exceptionally low levels, resulting in high dissolved manganese which passed into the supply network causing discoloured water and led to two Letters of Commitment (**Line B10.17**) being agreed with DWQR relating to improvement works at Daer WTW and the development of a Scottish Water-wide Manganese Management Strategy. WQ Discoloured contacts in 2022 (12,251) returned to similar numbers recorded in 2020 (12,989) as reservoir levels recovered. WQ Discoloured contacts decreased from 12,251 in 2022 to 11,437 in 2023 supported by our ongoing water mains conditioning and flushing programme.

DWQR AWQR reports provide analysis on numbers of consumer contacts reported by Regulatory Supply Zone (RSZ). In 2023, 15,713 (95%) contacts were assigned to an RSZ, and 839 reported contacts did not have an RSZ reference. RSZ details are not captured in the Dynamics contacts reporting system but calculated in a Power BI model by cross-referencing property IDs in Dynamics with an address database in GIS. Contacts with unknown RSZs can occur when enquiries are made and no address details are provided, and also when a property match cannot be found between the two systems. Work is on-going to try to reduce the number of 'Unknown' RSZ entries, at DWQR's request, and their expectation is that any contact with an address should have an RSZ.

B10.23 – Escalated complaints to DWQR

In 2023, DWQR received two escalated complaints (also called second tier complaints) about water quality. The investigations into these have been completed and not upheld. The confidence grade for this figure has been entered as BX to reflect that we rely on the DWQR Annual Water Quality Report to confirm final figures for escalated complaints, and this report is usually issued in August. During the audit, four escalated complaints were reported. However, since then DWQR has determined that two of these complaints would be classed as 2024 complaints as the formal investigations process began in 2024, following initial queries made during 2023.

12.4 Investment and improving asset capability

- Project investment appraisals for the WTW core program continue to be developed in line with investment priorities set by the level of risk and funding availability through the Investment Planning Scenario (IPS).

- For Mannofield WTW, work to install UV irradiation on each RGF outlet was completed in March 2024 to meet the EN requirement to deliver a robust process to reduce the risk from *Cryptosporidium*. An important factor allowing key refurbishment work to progress at Mannofield is the delivery of the Invercannie WTW new dissolved air floatation (DAF) plant that has been completed, but the clear water tanks (CWTs) have still to be commissioned.

- Bonnycraig WTW was replaced by a new membrane works in December 2022, as required by the Enforcement Notice (**Line B10.16a**); no *Cryptosporidium* detections have been measured since the new works came into supply.

- We continue to deliver the actions required by the DWQR Enforcement Notice in relation to Treated Water Storage Points (TWS) that was issued in 2023 - further details noted in Section 12.3.2.

- The new Herricks WTW, one of the first schemes to go through our new project investment appraisal process, started on-site in November 2022 and is forecast for completion by the end of 2025.

- In accordance with our letter of commitment to the DWQR work has started at Carron Valley WTW to manage the naturally occurring raw water compound Geosmin, which causes taste and odour issues for our consumers. The project is now on-site to install new PAC dosing, a new lime plant and RGF refurbishment.

- At Turriff WTW, the previous EN to manage the risks from *Cryptosporidium* with essential capital maintenance including SCADA replacement was completed in June 2022. However, asset capability limitations resulted in further final water *Cryptosporidium* detections in Winter in 2022 and a new EN requiring further significant investment has been implemented.

- The management of discolouration risks in our network has continued with cleaning and rehabilitation activities.

- We continue with our consumer driven, failure and opportunistic Lead communication pipe replacement programmes, but note that changes to the statutory guidance for private landlords requiring compliance with the Lead standard by March 2024 is driving a ten-fold increase in enquiries.

12.5 Data

Table 67 provides a summary of each data type source, confidence, and accuracy grade. Most confidence and accuracy grades are A1, but incidents (B2) and escalated complaints (BX) are lower to reflect that these data have been provided before DWQR has published its annual water quality report on 2023 data.

Table 67: Summary of data sources, confidence, and accuracy grades.

Data type	Source	Confidence and accuracy grade
Parametric compliance	Combination of 12 x monthly csv data files Sample data is extracted from the 'Analytics Model – LIMS' dataset located i the Power Bi Flow Insights App. The final monthly submission of Dec-2023 data is made in Feb-2024.	**A1** - SW confidence definition: A-Data a corporate system, where data input follows an auditable process. 1 - Accuracy less than +/- 1%
Enforcement	Details of Enforcement Notices and Letter of Commitment are published on DWQR website, links below: https://dwqr.scot/regulator-activity/enforcement/ https://dwqr.scot/regulator- activity/letters-commitment/	**A1** - SW confidence definition – A-Data a corporate system, where data input follows an auditable process. 1 - Accuracy less than +/- 1%
Incidents	Incidents are declared to Sottish Water by DWQR via e-mail. Scottish water's Water Quality Regulation & Public Health Team moved to new Dynamics database in July 2023, creating a corporate reporting and tracking system for DWQR declared wate quality incidents: https://swregulatory.crm4.dynamics.com/	**B2** - WIC confidence definition: B- as A but with minor shortcomings. Examples include old assessment, some missing documentation, **some reliance on unconfirmed reports,** some use of extrapolation. 2 - Accuracy +/- 5% to +/- 1%
Consumer contac to SW	Combination of 4 x quarterly csv data files consumer contact data submitted to DWC Contacts data is extracted from the 'Analytics Model – Ascend Dynamics' dataset located in the Power Bi Flow Insights App. The final quarterly submissi of Q4-2023 data is made in Feb-2024.	**A1** – SW confidence definition: A-Data a corporate system, where data input follows an auditable process. 1 - Accuracy less than +/- 1%
Complaints to DWQR	Escalated water quality complaints are declared to Scottish by DWQR via email. Determinations are published on DWQR's website https://dwqr.scot/regulator-activity/consumer-complaint-investigations/consumer-complaint-determinations/	**BX** - WIC confidence definition: B- as A but with minor shortcomings. Examples include old assessment, some missing documentation, **some reliance on unconfirmed reports,** some use of extrapolation. X - Accuracy outside +/- 100%, zero or small numbers or otherwise incompatib

13 Table B11a – Pollution Incidents

13.1 Overview

Table B11a contains data for the calendar year to end December 2023 and Financial Year 2023/24. The explanatory text below is in relation to the Financial Year.

AR24 saw the numbers remain at normal levels, with 2021/22 as an isolated year with an increase in incidents suspected to be the result of various impacts associated with COVID-19.

A substantial number of events were agreed as third party/private/compliant with licence and were therefore discounted from our numbers. As we move through SR21 our focus will be on reducing the significant proportion of incidents which occur on our Wastewater network through increased intelligence and targeted planned maintenance.

The confidence grade for all lines on Table 11a is A1. All events reported in Table B11a have been agreed with SEPA and finalised by 10 April 2024 (as per SEPA e-mail dated 10/04/24).

In AR24 there was a total of 196 environmental pollution incidents (EPIs), ten less than reported in the AR23 period. In AR24 there were eleven serious Category 1&2 events (all Wastewater) compared to eleven in AR23 (eight Wastewater and three Water).

13.2 Performance Trends

13.2.1 Lines B11a.1-B11a.8 Sewage Related Premises

Financial Year

During the AR24 reporting financial year 183 EPIs were recorded at sewage related premises, where 58% of these incidents were reported on the foul sewer network. Eleven of the reported EPIs fell into Category 1 and 2 and are listed in Table 68 below.

Table 68: Location of Sewage related EPIs

Sewer Related Premises	Site or Area	Total EPI
Foul Sewer	Phillipshill DOA	3
Foul Sewer	Erskine DOA	1
Foul Sewer	Ballinluig DOA	1
Foul Sewer	Fort Augustus DOA	1
Foul Sewer	Queens Park SST Penstock	1
Foul Sewer	Edinburgh DOA	1
Foul Sewer	Shotts DOA	1
Sewage Treatment Works	Dunnswood WwTW	1
Combined Sewer Overflow	Carluke Glenmavis CSO	1

For AR24 23/24 there were ten EPIs compliant with licence within Wastewater.

Calendar Year

During the AR24 calendar reporting year 172 EPIs were recorded at sewage related premises, where 66% of these incidents were reported on the foul sewer network. Ten of the reported EPIs fell into Category 1 and 2 and are listed in Table 69 below.

Table 69: Location of Sewage related EPIs

Sewer Related Premises	Site or Area	Total EPI
Foul Sewer	Phillipshill DOA	1
Foul Sewer	Erskine DOA	1
Foul Sewer	Ballinluig DOA	1
Foul Sewer	Fort Augustus DOA	1
Foul Sewer	Queens Park SST Penstock	1
Foul Sewer	Edinburgh DOA	1
Foul Sewer	Shotts DOA	1
Foul Sewer	Kirkcaldy DOA	1
Sewage Treatment Works	Dunnswood WwTW	1
Combined Sewer Overflow	Carluke Glenmavis CSO	1

For AR24 there were twelve EPIs compliant with licence within Wastewater.

13.2.2 Lines B11a.9-B11a.12 Water and Surface Water Related Premises

Financial Year

During the AR24 reporting financial year there were thirteen EPIs recorded at water related premises, none of which were Category 1 and 2 events.

For AR24 there were zero EPIs that were compliant with the discharge consent within Water assets.

Calendar Year

During the AR24 calendar reporting year there were sixteen EPIs recorded at water related premises, none of which were Category 1 and 2 events.

For AR24 calendar year there were zero EPIs that were compliant with licence within Water.

B11a.17 Total Number of Water Company self-reported incidents

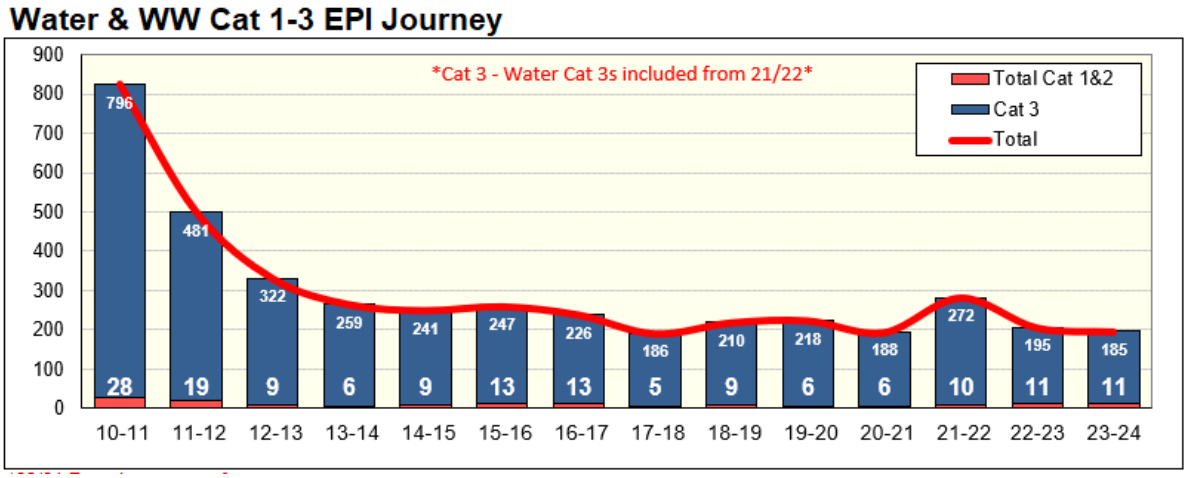
During the AR24 period the Total number of self-reported incidents made by Scottish Water was 67, this is an increase of 11 to those self-reported incidents captured in AR23.

B11a.17 Total Number of Water Company self-reported incidents

During the AR24 calendar period the Total number of self-reported incidents made by Scottish Water was 64.

Pollution Trend Graphs

Figure 49: Water and wastewater category 1-3 EPI journey.



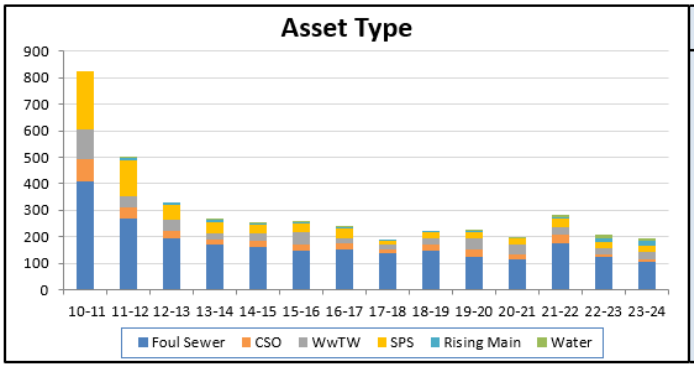
The long-term trend in Figure 49 shows significant reductions in numbers of EPIs followed by a levelling off of performance in subsequent years. AR22 saw an isolated increase in numbers of both measures with a return to more normal levels in AR23. It is suspected that this could have resulted from an increase in SEPA and customer reporting during COVID-19 when more people were working from home and more likely to exercise outdoors.

Root Cause Analysis

The types of assets associated with historic EPIs are summarised in Figure 50 below. This shows that although there has been a marginal increase in the number of incidents associated with water assets, the vast majority of EPIs (typically 94% or above) are associated with wastewater assets.

When EPI reporting first commenced issues related to wastewater non-infrastructure assets (wastewater treatment works and sewage pumping stations) accounted for up to 40% of incidents. Through subsequent focus on the performance of these assets and supporting investment this has fallen to around half this level (24% in AR24). This highlights that the key area of improvement in reducing EPI numbers relates to incidents associated with our wastewater infrastructure assets.

Figure 50: Asset types associated with historic EPIs.



Financial Year	Foul Sewer	CSO	WwTW	SPS	Rising Main	Water	Total
10-11	408	86	112	218	0	0	**824**
11-12	271	39	45	135	9	1	**500**
12-13	193	31	41	55	11	0	**331**
13-14	169	22	23	42	8	1	**265**
14-15	161	23	27	32	6	1	**250**
15-16	145	25	45	34	8	3	**260**
16-17	151	22	22	38	5	1	**239**
17-18	137	16	16	14	8	0	**191**
18-19	149	22	22	23	3	0	**219**
19-20	124	29	39	26	5	1	**224**
20-21	115	18	37	22	1	1	**194**
21-22	173	35	30	29	6	9	**282**
22-23	126	7	22	27	11	13	**206**
23-24	107	9	26	22	19	13	**196**

13.3 Investment

B11a - Pollution Incidents

As we move through SR21 our focus will be on reducing the significant proportion of incidents which occur on our wastewater network through increased intelligence and targeted planned maintenance.

We are focused on reducing the number of incidents which occur on our wastewater network through increased use of intelligence, including real time monitors, and targeted planned maintenance. Progress has been made this year through the Improving Urban waters project. The emerging insights and intelligence which are being developed will enable operations to become more proactive in our approach in the coming year.

Further investment is also required to promote responsible behaviours and raise awareness of the role the customer and communities play to keep sewers working as they should (our Nature Calls campaign). Network monitoring will support this work by helping to identify where targeted campaigns are required to influence and inspire impactful behaviour change.

13.4 Data

There has been no change to the data sources, confidence grades and methodology from previous year.

Incidents reported by staff members, members of the public and SEPA and action taken to resolve them are recorded in Microsoft Dynamics. The EPI Co-ordinator then updates the Trackers from Microsoft Dynamics and populates the shared Scottish Water/SEPA spreadsheet. Since the SEPA cyber-attack in December 2020, SEPA do not have a system to record pollution events reported to them.

Scottish Water continues to carry out an internal agreement process for all Cat 4 Ops. Events, Cat 3 events where SEPA have not reported and Cat 3 events where both Scottish Water and SEPA agree Cat 3. Agreement calls for the remainder of the events are held monthly with Scottish Water and SEPA and any events where Scottish Water has found third party/land impacts are discussed and agreed.

Calls are scheduled in between the monthly calls if required to discuss more serious events. Following any calls, an up-to-date copy of the agreement tracker is e-mailed to the SEPA personnel involved. If agreement cannot be made, then the escalation process is followed.

Scottish Water provides a monthly data tracker download to the nine SEPA teams for review. This includes a summary of the event, the Scottish Water and SEPA initial category and the agreed category if agreed. All events reported for AR24 have been agreed with SEPA and finalised on 10 April (as per SEPA e-mail dated 10/04/24).

13.4.1 Data Improvements

Incident calls are held for all Cat 1 & 2 pollution incidents.

The SEPA licence number is now being added to the EPI notification via Microsoft Dynamics with a link set up to the licence database.

A category matrix example list has been created with both Scottish Water and SEPA input as part of the SEPA “build back better” group.

EPI Toolbox Talk (training) created on learning system Cornerstone for WW Ops to complete.

14 Tables B11b and B11c: SEPA Annual Report to the Water Industry Commission for Scotland: Scottish Water Compliance & Discharges Confirmed as Failing

14.1 Table B11b/c Overview

This information was previously submitted by SEPA as an Annual Return to WICS.

Scottish Water has taken over reporting of the data for the AR22, AR23 and AR24. This data was previously sourced from SEPA's Corporate Licensing database. SEPA has advised that this number remained static over the years. Since the cyber-attack on the SEPA Systems, this database is no longer available.

As per AR22 and AR23 queries process, we have provided the data from Scottish Water's Operator Self- Monitoring (OSM) Annual Monitoring Plan (AMP) for commentary purposes. There are some lines that Scottish Water cannot report on due to Scottish Water not collecting the data, as detailed in the lines affected.

Scottish Water reviewed and updated Table B11b prior to sharing and discussing the changes with SEPA and WICS. Both parties confirmed that the changes were acceptable for AR24.

Wastewater compliance (for the purpose of tables B11b and B11c) is assessed against the CAR (Controlled Activity Regulations), UWWTD (Urban Wastewater Treatment Directive) and OPA for both calendar and financial years.

Wastewater Compliance Definitions

Wastewater compliance (for the purpose of tables B11b and B11c) is assessed against the CAR (Controlled Activity Regulations), UWWTD (Urban Wastewater Treatment Directive) and OPA for both calendar and financial years.

Regulatory sampling is undertaken by Scottish Water Scientific Services through Operator Self-Monitoring (OSM). Wastewater Treatment Works (WwTWs) are scheduled to be sampled from a pre-determined annual programme from SEPA, otherwise referred to as the Annual Monitoring Programme (AMP).

The exception to this is for bacteriological samples. SEPA undertake this sampling and send results to Scottish Water for inclusion in the compliance calculation.

A sample result remains on the compliance record for twelve months.

There are five ways a WwTW can be classed as failing. B11b/c Table 70 below summarises each:

Table 70: Failing classifications for WwTWs (i.e. reason for failure).

Failing Category	Definition
Look Up Table (LUT)	Exceeds a permitted number of parameters Lower Tier (LT) breaches, as per the LUT (standard appendix in all SEPA licences).
Upper Tier (UT) or pH	Breaches an Upper Tier (UT) parameter limit. pH is also included under this category (measured as a banding).
Annual Mean Concentration (AMC)	Average calculated from a set of samples taken throughout the calendar and financial year. A
	WwTW will be deemed failing if it fails the AMC limit on 31 December or 31 March.
75% Rule	Applies to a small set of WwTWs with single tier licences. A WwTW will be deemed failing if it does not achieve 75% compliance or more on 31 December or 31 March.
Log 10 Mean*	Applies to a small set of WwTWs sampled for Phosphorus as spot samples. Average calculated as Log10. A WwTW will be deemed failing if it fails the AMC limit on 31 December or 31 March.

* In the absence of guidance from SEPA, SEPA confirmed that EA guidance could be used to calculate compliance for sites that have this consented parameter.

Exclusion requests may be submitted to SEPA where there is sufficient evidence to appeal fails against specific clauses contained within the licence (see Table 71). If SEPA accepts an exclusion request, the sample result will be removed from the compliance record.

Table 71: Criteria for Exclusion Request submissions.

Low ambient temperatures (evidenced by effluent temperatures of 5oC or less or freezing of mechanical equipment
Snow deposits sufficient to affect normal operation of the STW
Tidal or fluvial flooding
Weather conditions causing unforeseen loss of power supply to the treatment plant which could not be ameliorated by the reasonable provision and operation of standby facilities
CAS Section 4.3 (Agreed Improvement Plan for bringing discharge back into compliance)
Statutory defence (CAR Reg 48) - unforeseen accidents, force majeure or serious harm prevention

The performance measure for reporting failing wastewater treatment works changed in SR21, moving to Total Compliance which assesses compliance against all quality parameters contained within a SEPA licence. The reason for the change was to ensure that Scottish Water continued to

focus on protecting the environment from all licensed quality parameters. Additionally, it aligned with SEPA's Compliance Assessment (CAS) criteria.

Prior to this only a proportion of final effluent sanitary parameters impacted on SR15 OPA compliance. Table 72 lists and compares the parameters used to assess compliance in each of the investment periods.

Table 72: Parameters used to assess compliance with the Overall Performance Assessment (OPA) measure in each of the investment periods (SR15 and SR21).

SR15 OPA	SR21 OPA
BOD (CAR) – LUT	BOD (CAR) – LUT/UT
Suspended Solids (CAR) – LUT	Suspended Solids (CAR) – LUT/UT
Ammonia (CAR) – LUT	Ammonia (CAR) – LUT/UT
Phosphorus (CAR) – LUT	Phosphorus, Nitrogen (CAR) – LUT/UT/AMC
Bacti with UV Disinfection (CAR) – LUT	pH, Bacti, Metals, Organics (CAR) – LUT/UT/AMC
BOD (UWWTD) – LUT	BOD, COD (UWWTD) – LUT/UT
Phosphorus (UWWTD) – AMC	Phosphorus, Nitrogen (UWWTD) – AMC

14.2 Performance Trends

14.2.1 Lines B11b.1-B11b.4 - (A) Sewage Treatment Works: Total number

Line B11b.1 No. of wastewater treatment works on register during year (in force)

The value of 1,428 has been taken from Scottish Water's licence database for AR24. The value of 1,202 was used in the AR22 and AR23 reports, this figure taken from the last confirmed SEPA calculation in 2020. In the absence of the SEPA Licence Database due to the cyber-attack, Scottish Water is unable to undertake comparisons and explain the difference of 226. However, a confidence grade of A2 has been assigned to the AR24 figure. The line definition has changed for AR24 after consultation with SEPA and WICS.

Lines B11b.2 No. of wastewater treatment works assessed for compliance and

For AR24 there were 581 reported which corresponds with the number of assets listed on the Operator Self-Monitoring (OSM) Annual Monitoring Plan (AMP). It also includes PFI sites.

B11b.3 No. of wastewater treatment works confirmed failing in year

For the 2023 calendar year there were 14 WwTWs and, for the AR24 reporting year, 17 WwTWs Discharges Confirmed Failing under CAR compliance.

This is a reduction when compared with the previous year.

There were 22 WwTWs reported for the 2022 calendar year, 18 WwTWs for AR23.

Line B11b.4 %. of wastewater treatment works compliant with licence in the year

For the 2023 calendar year the percentage of CAR Discharges Compliant with Consent was 99.02%, and for AR24 98.81% was reported.

This is an improvement when compared with the previous year.

The percent compliance reported for the 2022 calendar was 98.17%, 98.50% for AR23.

14.2.2 Lines B11b.5-B11b.8 - (B) Look-up Table Lower Tier Consents

Line B11b.5 No. of wastewater treatment works on register during year (in force)
This is referenced under commentary **Line B11b.1**.

Line B11b.6 No. of wastewater treatment works assessed for compliance
This is referenced under commentary **Line B11b.2**.

Line B11b.7 No. of wastewater treatment works confirmed failing in year

For the 2023 calendar year there were 0 WwTWs, and for the AR24 reporting year there were 0 WwTWs confirmed as failing under the CAR compliance Discharge Look-up Table Lower Tier Consents criteria.

This is a reduction when compared with the previous year.

There were 4 WwTWs reported for the 2022 calendar year, 2 WwTWs for AR23.

Line B11b.8 %. of wastewater treatment works compliant with licence in the year

For the 2023 calendar year the percentage CAR Discharge Compliance with Consent was 100.00%, and for AR24 there was 100.00% reported.

This is an improvement when compared with the previous year.

The percent compliance reported for the 2022 calendar year was 99.67%, 99.83% for AR23.

14.2.3 Lines B11b.9-B11b.12 - (C) Upper Tier Consents

Line B11b.9 No. of wastewater treatment works on register during year (in force).

This is referenced under commentary **Line B11b.1**.

Line B11b.10 No. of wastewater treatment works assessed for compliance

This is referenced under commentary **Line B11b.2**.

Line B11b.11 No. of wastewater treatment works confirmed failing in year

For the 2023 calendar year there were 14 WwTWs, and for the AR24 reporting year there were seventeen WwTWs confirmed as failing under CAR compliance Discharge Upper Tier criteria.

This is a reduction for the calendar year and a marginal increase for AR24 when compared with the previous year.

There were twenty WwTWs reported for the 2022 calendar year, sixteen WwTWs for AR23.

Line B11b.12 % of wastewater treatment works compliant with licence in the year

For the 2023 calendar year the percentage CAR Discharge Compliance with Consent was 99.09%, and for AR24 there was 98.81% reported.

This is an improvement when compared with the previous year.
The percent compliance reported for the 2022 calendar year was 98.34%, 98.67% for AR23.

14.2.4 Lines B11b.13-B11b.16 - (D) Single Tier Licences

Line B11b.13 No. of wastewater treatment works on register during year (in force)

The total number of wastewater treatment works on register during year (in force) is 369.

This is calculated from the Annual Monitoring Plan (AMP). The AMP database is not set up to easily produce this number and a manual intervention is required. This is reflected in the confidence grade (A2)

Line B11b.14 No. of wastewater treatment works assessed for compliance

Scottish Water's licence database calculated the number of wastewater treatment works with licenses that only have single tier/absolute limits included in the 2023 Annual Monitoring Plan was 2. The sites were: Orphir and Kirkpatrick Durham Septic Tank.

Orphir was in the 2023 AMP in January 2023 and, at that point in time, the licence for this site included absolute limits for SS, BOD and Ammonia. These limits were no longer applicable when the new works was commissioned on 30 November 2023 – no numerical limits applied from that date and the site was removed from the AMP on 22 March 2024.

Kirkpatrick Durham is now the only wastewater treatment works that has an absolute limit for suspended solids and this change will be reported in AR25.

The licence database has come from a corporate system and the AMP is a SEPA controlled document. A confidence grade for AR24 has been assigned as A1.

Line B11b.15 No. of wastewater treatment works confirmed failing in year

For the 2023 calendar year, there was 1 WwTW confirmed as failing under the metric CAR compliance Discharge Single Tier criteria. AR24 reported 0 WwTWs.

Line B11b.16 %. of wastewater treatment works compliant with licence in the year

The line definition has changed for AR24 after consultation with SEPA and WICS.

However, Scottish Water's licence database is unable to calculate an accurate number of sites within this category, and consequently percent compliance. We have left this blank for AR24 but will work towards having a figure for AR25.

14.2.5 Lines B11b.21-B11b.24 - (F) Wastewater treatment works confirmed as failing (CAR)

Line B11b.21 Number of wastewater treatment works confirmed as failing (CAR)

For the 2023 calendar year there were 14 WwTWs, and for the AR24 reporting year there were 17 WwTWs confirmed as failing under CAR compliance Discharge as Failing criteria.

This is a reduction when compared with the previous year.

There were 22 WwTWs reported for the 2022 calendar year, 18 WwTWs for AR23.

Line B11b.22 Total population equivalent confirmed as failing

For the failing WwTWs reported in **Line B11b.22** the Total Population Equivalent affected for the 2023 calendar year there was 175,768, whereas for AR24 reporting year was 183,386.

This is a reduction when compared with the previous year.

Failing WwTWs served a Total Population Equivalent of 846,731 in the 2022 calendar year, 837,098 for AR23.

Line B11b.23 Total population equivalent served by WwTWs (resident) (numeric licences)
The Total Population Equivalent served by WwTWs listed on the AMP is 6,485,186.

Line B11b.24 Percentage population equivalent confirmed as failing
For the 2023 calendar year the percentage Population Equivalent confirmed as failing under CAR was 2.71%, and for AR24 there was 2.83% reported.

This is an improvement when compared with the previous year.

The percent compliance reported for the 2022 calendar was 13.12%, 12.97% for AR23.

14.2.6 Lines B11b.25-B11b.28 - (G) UWWTD

The numbers reported in these lines are based on the 2023 calendar year only.

Line B11b.25 No. of wastewater treatment works on register during year (in force).
For the 2023 period there were 198 discharges reported (197 in 2022).

Line B11b.26 No. of wastewater treatment works assessed for compliance
For the 2023 period there were 198 discharges Assessed for Compliance.

Line B11b.27 No. of wastewater treatment works confirmed failing in year
For the 2023 period there were seven WwTWs confirmed as failing UWWTD. The 2022 period also reported seven failing WwTWs. Table 73 lists these WwTWs.

Table 73: WwTWs confirmed as failing.

Failing WwTWs (UWWTD) - 2023 v 2022 Comparison			
2023		2022	
WwTW	Failing Parameter(s)	WwTW	Failing Parameter(s)
Coupar Angus	BOD	Cupar	BOD
Erskine	BOD	Dalmarnock	Total P
Forres	BOD	Evanton	BOD
Kirkcaldy	COD	Galashiels	Total P
Muir of Ord	BOD	Kemnay	BOD, COD
Nigg	COD	Montrose	BOD
Skellyton	Total P	South Queensferry	BOD, COD

Line B11b.28 % of wastewater treatment works compliant with licence in the year
96.46% percentage Population Equivalent were Compliant with Consent during the year.

96.45% was reported for the 2022 period.

Lines B11b.29-B11b.32 - (H) Wastewater treatment works confirmed as failing (OPA criteria only)

OPA is a financial year measure, although calendar year is also reported for information.

The OPA performance measure for failing treatment works changed from 1 April 2021, moving to Total Compliance which assesses compliance against all quality parameters contained within a SEPA licence. Prior to this only a proportion of final effluent parameters impacted on OPA compliance.

Although the number of failing WwTWs reported for both AR24 and AR23 are the same, the Total Population Equivalent served by these sites has improved.

The Total Population Equivalent affected for AR24 reporting year was 569,856 (AR23 - 851,013).

Line B11b.29 Number of wastewater treatment works confirmed as failing (OPA)

For the 2023 calendar year there were 21 WwTWs, and for the AR24 reporting year there were 22 WwTWs confirmed as failing the Total Compliance (SR21) measure, no change from AR23 (see Figure 51 and Table 74).

This equates to a 96.2% compliance rate from the 581 assets listed on the Annual Monitoring Plan (AMP) and sampled under Operator Self-Monitoring (OSM).

Figure 51: Number of WwTWs confirmed as failing the Total Compliance (SR21) measure for AR24 vs AR23.

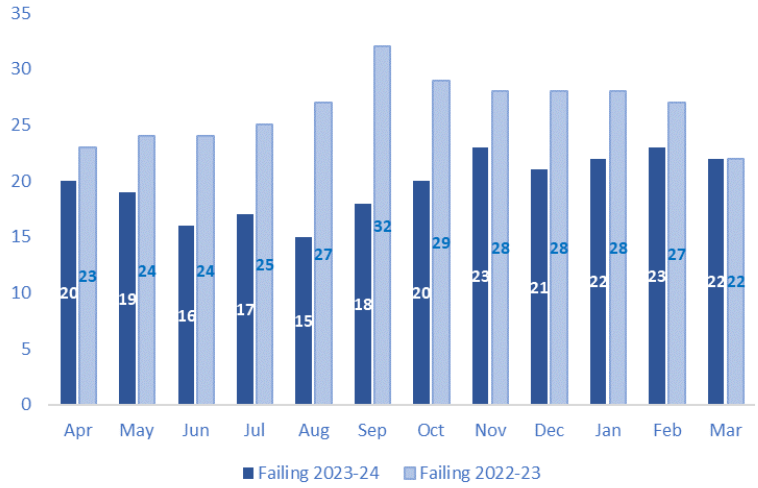


Table 74: Failing WwTWs and Parameters for AR24 and AR23.

Total Compliance SR21 Comparison			
AR24		AR23	
WwTW	Failing Parameter(s)	WwTW	Failing Parameter(s)
Banchory	SS (UT)	Aboyne	SS (UT)
Croy	SS (UT)	Alyth	NH3 (UT)
Drumlithie	BOD (UT)	Ashgill	SS (UT)
Erskine	BOD (UT)	Bothwellbank	NH3 (LUT), BOD (LUT)
Forres	BOD (UT)	Coupar Angus	BOD (UT)
Fyvie	BOD (UT)	Cupar	BOD (UT)
Gairloch	E.coli (UT); I.coli (UT)	East Linton	BOD (UT), SS (UT)
Galashiels	pH	Evanton	BOD (UT)
Insh	SS (UT)	Gorebridge	pH
Kinneil Kerse	SS (UT)	Haddington	BOD (UT), SS (UT)
Longside	pH	Hawick	SS (UT), Iron (AMC)
Milton of Kildary	SS (UT)	Kemnay	BOD (UT), COD (UT), S (UT)
Muir of Ord	BOD (UT)	Lauder	BOD (UT), SS (UT)
Neilston	Chromium (UT)	Lochwinnoch	SS (UT)
Nigg	COD (LT / LUT), BOD (UT)	Luss	E.coli (UT)
Sauchen	pH	Orphir Primary School	NH3 (UT), BOD (UT), S (UT)
Shotts	NH3 (UT), pH	Penicuik	BOD (UT), SS (UT)
South Queensferry	BOD (UT)	Philipshill	NH3 (UT), BOD (UT)
Stanley	SS (UT)	Rigside	BOD (LUT)
Stevenston	Dichloromethane (UT)	Shieldhall	BOD (UT), SS (UT)
Tain	E.coli (UT)	South Queensferry	BOD (UT), COD (UT)
Tyndrum	SS (UT)	Stevenston	Dichloromethane (UT)

Of the 22 WwTWs reported as failing in AR24, two of these also failed AR23.

These sites are:

- South Queensferry
- Stevenston

For AR24, 95% of the parameters impacting the number of failing WwTWs are upper tier fails. This compares with 91% for AR23. Look Up Table and Annual Average percentages have improved for AR24 due to increased levels of mitigation and action taken to prevent further fails at an asset. Upper tier fails are categorised as WwTW as failing immediately and remains so for the following twelve months.

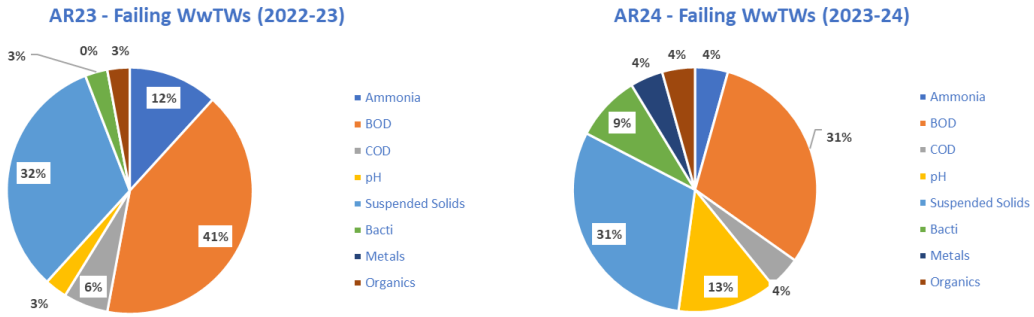
Figure 52 shows the comparisons for fail types for failing WwTWs reported in AR23 and AR24.

Figure 52: Parameter Fail Category for AR23 and AR24.

For parameter type fails, BOD, Suspended Solids and Ammonia contribute the most towards failing WwTWs. AR24 is 40%, 31% and 11% respectively compared with 40%, 31% and 11% for AR23.

Figure 53 shows the parameter fail type comparisons for failing WwTWs reported in AR23 and AR24.

Figure 53: Parameter Fail Types for AR23 and AR24



Line B11b.30 Total population equivalent confirmed as failing.

For the failing WwTWs reported in **Line B11b.29** the Total Population Equivalent affected for the 2023 calendar year there was 644,662 (2022 - 1,079,754). The Total Population Equivalent affected for AR24 reporting year was 569,856 (AR23 - 851,013).

Line B11b.31 Total population equivalent served by WwTWs (resident) (numeric licences)

The Total Population Equivalent served by WwTWs listed on the AMP is 6,485,186.

Line B11b.32 Percentage population equivalent confirmed as failing

For the 2023 calendar year the percentage Population Equivalent confirmed as failing under OPA criteria was 9.94%, and for AR24 8.79% was reported.

This is an improvement when compared with the previous year.
The percent compliance reported for the 2022 calendar was 16.78%, 13.56% for AR23.

Line B11b.33 - Number of wastewater treatment works confirmed as failing (OPA) (SR15 equivalent)

Wastewater compliance under the SR15 metric reported zero failing WwTWs in AR24 compared with two in AR23. For the 2023 calendar year there was one WwTW failing as defined for SR15 OPA purposes. Table 75 below contains the list of failing works and failing parameters. Please note that a direct comparison between parameters that failed under the SR15 and SR21 versions of the OPA cannot be made due to the change in assessed parameters (see our response to AR22 query B-36).

Table 75: List of Failing Works and Failing Parameters

SR15 OPA Comparison			
AR24		AR23	
WwTW	Failing Parameter(s)	WwTW	Failing Parameter(s)
		Bothwellbank	BOD (LT / LUT)
		Rigside	BOD (LT / LUT)

Line B11b.34 - Total population equivalent confirmed as failing (SR15 equivalent)

For the 2023 calendar year there were 16,561 Population Equivalent (PE) affected by failing WwTWs (SR15 equivalent) and for AR24 zero was reported.

This is a reduction when compared with the previous year.

Failing WwTWs served a total PE of 221,860 in the 2022 calendar year, 25373 for AR23.

Line B11b.35 - Total population equivalent served by WwTWs (resident) (numeric licences) (SR15 equivalent)

For the 2023 calendar year there were 6,485,186 PE served by all WwTWs with numeric consents (SR15 equivalent) which also reflects the AR24 figure reported.

Line B11b.36 - Percentage population equivalent confirmed as failing (SR15 OPA equivalent)

For the 2023 calendar year 0.26% of the population equivalent were affected by failing WwTWs (SR15 equivalent) and for AR24 0% was reported.

This is an improvement when compared with the previous year. The percentage compliance reported for the 2022 calendar was 3.44%, 0.39% for AR23.

15 Table B11c - Failing WwTWs (Calendar & Financial Year)

This table lists the WwTWs reported as failing for both 2023 and/or 2023/24.

Data contained in these tables is used to populate Table B11b. Performance and trends are reported in the B11b Commentary above.

15.1 Investment

The allocation (IPS 2024) to MA084 for WwTW Improvements is £108m.

The allocation of MA084 in 2023 was £127m. However, this was reduced in IPS 2024.1.

Live projects currently in development have a latest best estimate of £138.8m with a current committed spend of £17.8m. The remaining investment will be fully committed within the investment period to meet the 2027 regulatory deadline.

The outcomes of the successful delivery of MA084 interventions will result in WwTW Improvements such as improved bathing water performance at Ayr South and reduced risk of malodour at Seafield WwTW, alongside improved water quality to address all remaining WwTW pressures identified within River Basin Management Plans (RBMP3) which will be delivered by 2027.

The costs to deliver RBMP3 interventions alone makes up over 70% of MA084 IPS.

The RBMP3 programme has progressed at pace over the last year with further development including best available programme technology review, developing delivery approaches, desktop-based process assessments and solution development with standard products. The project team received approval from the Investment Group (IG) to progress with a streamlined process for project delivery approach which has facilitated the progress.

Site surveys were carried out in January-February 2024 and confirmed cost estimates will be available in 2025.

WwTWs within the RBMP3 programme are largely addressing a Reactive Phosphorus (RP) quality parameter and Nature Based Solutions (NBS), alternative approaches to meeting the RBMP3 commitments, are currently being investigated at five locations.

Three of the RBMP3 sites within the programme are PFI sites (East Calder, Whitburn and Blackburn WwTWs) returning to Scottish Water post December 2027. Scottish Water maintains that delivering enhancements at assets currently owned, operated and maintained through PFI arrangements would not be appropriate until after the return of those assets to Scottish Water - SEPA is aware of Scottish Water position.

Through combined growth and RBMP drivers, Nereda treatment is being used at Winchburgh WwTW for RP removal. Ferric dosing has already begun onsite in May to meet the current target of 0.55 mg/l 95%ile and a standard of 0.38 mg/l once growth is fully realised. The RBMP3 driver at Winchburgh requires meeting a target of 0.2mg/l and the project team is working to improve RP removal to enable this.

A new need has been highlighted for MA084 - WwTW Pass Forward Flow (PFF) Compliance. This project aims to assess compliance with licence requirements at overflows located in Scottish Water’s wastewater treatment works. The expected project outputs are a pass forward flow and overflow event compliance position that identifies compliant and non-compliant WwTW assets and a monitoring and data gap analysis that identifies actions for next steps. Costs related to PFF Compliance are currently being developed by consultants. However, it is expected this will be significant and form a large portion of the IPS of MA084.

15.2 Data

There has been no change to the data sources and methodology from AR23.

Regulatory samples results are sourced from Scientific Services LIMS. Using these, a consents reference set and a **calculation** spreadsheet, the compliance status is calculated for each WwTW sampled under OSM. Compliance reports are created weekly using Power BI and shared within Scottish Water and with SEPA.

A Confidence Grade of A1 has been given to the data contained in each line in this table. The data is sourced from Scottish Water systems.