Quarterly Report No. 3 of 2021

3

WAB

Water Advisory Body

NOVEMBER 2021

Web: www.wateradvisorybody.ie Email: info@wab.gov.ie

Contents

Foreword

Paul McGowan
Chairperson

Welcome to the third Quarterly Report of 2021 by the Water Advisory Body (the WAB).

In this report we highlight changes to four of our Performance Indicators. We use these Performance Indicators to monitor how well Irish Water is performing. We also review several reports produced by the Environmental Protection Agency and the Commission for Regulation of Utilities.

This report shows a decline in the number of leak repairs completed since Quarter 1 2020 under the First Fix Free Scheme. The WAB supports the earliest introduction of the Household Water Conservation (Excess Use Charges) Policy . The WAB anticipates that this will encourage customers to avail of the First Fix Free Scheme, which has been expanded to capture unmetered customers, and that these two measures together will lead to higher numbers of leak repairs in the future.

The WAB is concerned that at the end of Quarter 2 2021, the Remedial Action List contained 53 water supplies, which is an increase of five supplies since our last report. Nevertheless, there was a welcome decrease in the population served by supplies on the Remedial Action List (566,302 consumers, mainly due to the removal of Leixlip from the list).

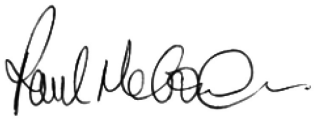
Irish Water expects to exceed its 2021 target for replacement of lead connections. While welcome, we note that it is highly unlikely that Irish Water will be able meet the targets it set in its' "Lead in Drinking Water Mitigation Plan" to replace all lead services by 2026.

The WAB also notes with concern that the majority of boil water notice at the end of Quarter 2 2021 are long-term (in excess of 30 days).

The WAB welcomes the Commission for Regulation of Utilities' review and update of the Irish Water Performance Assessment Framework 2020-2024 (detailed in Section 3). It sets out the service areas, specific metrics and target levels of performance that the Commission for Regulation of Utilities' will use to monitor Irish Water.

On 14 July 2021, the Environmental Protection Agency published the Water Quality in 2020: An Indicators Report, which provides an assessment of the quality of Ireland's rivers, lakes, estuaries and groundwaters. The WAB notes the concerns expressed by the Environmental Protection Agency that Ireland's water quality is currently under threat with nitrogen pollution from agriculture.

Finally, the WAB notes with concern, two significant incidents that affected drinking water in August of 2021 in the Ballymore Eustace and Gorey drinking water treatment plants. Section 3 of this report contains a review of the Environmental Protection Agency audit reports on the incidents.



Paul McGowan
Chairperson of the Water Advisory Body

Executive Summary

This is the seventh Quarterly report published by the WAB, and the third report of 2021.

The WAB was established on 1 June 2018. The purpose of the WAB is to advise the Minister on measures needed to improve the transparency and accountability of Irish Water and to report on a Quarterly basis to an Oireachtas Committee on the performance by Irish Water in the implementation of its Strategic Funding Plan.

A set of performance indicators has been selected to represent the activity of Irish Water in relation to the performance of its functions. Data in respect of these indicators is collated and published as part of the Quarterly Reports of the WAB in order to provide objective information on Irish Water's performance. This information is relevant to Irish Water itself, to track its own performance over time, but also to further inform both the Minister for Housing, Local Government and Heritage and the Oireachtas on the performance of Irish Water.

A detailed explanation of each key performance indicator is available in Appendix 1.

The information published within this report is accurate as of 15 September 2021.

The following findings from the report are of note, with specific reference to the four Key Performance Indicators that have been updated since the last report:

First Fix Free Scheme

Between the introduction of the First Fix Scheme in 2015 and Quarter 2 2020, the cumulative water savings are estimated by Irish Water to be 157.62 Megalitres/day. A cumulative estimated total of 82.70 Megalitres/day has been saved through repairs carried out by Irish Water and a further estimated 74.92Megalitres/day of water has been saved through repairs carried out by customers.

The highest number of leak repairs carried out by customers to date was completed in Quarter 3 2016, while the lowest number was completed in Quarter 2 2020.

The WAB supports the earliest introduction of the Household Water Conservation (Excess Use Charges) Policy . The WAB anticipates that this will encourage customers to avail of the First Fix Free Scheme, which has been expanded to capture unmetered customers, and that these two measures together will lead to higher numbers of leak repairs in the future.

Remedial Action List (Water)

At the end of Quarter 2 2021, the Remedial Action List contained 53 water supplies, which is an increase of five supplies since the end of Quarter 1 2021. The decrease in the population served by supplies on the Remedial Action List from Quarter 1 2021 to Quarter 2 2021 was 566,302 consumers which was mainly due to the removal of Leixlip from the Remedial Action List. This is a welcome development. However, the number of supplies on the Remedial Action List has increased for a second consecutive quarter and the WAB notes and supports the Environmental Protection Agency's concern at this development.

The WAB expects that Covid-19 restrictions will continue to have some impact on the completion dates for supplies on the Remedial Action List and will continue to monitor Irish Water's progress to assess and address these delays in subsequent reports.

Lead service connections replaced

The WAB notes that Irish Water is on track to exceed its target for 2021 with regard to replacement of lead connections. At the end of Q2 2021, Irish Water had replaced 1,472 connections, mainly due to more public side connections being replaced. Irish Water has assigned additional budget for lead replacements for the remainder of 2021. The WAB also notes the concerns expressed by the Environmental Protection Agency in its report "Drinking Water Quality in Public Supplies 2019" where it highlighted that by the end of 2019, 17% of public side lead connections had been replaced. Irish Water's target to replace an additional 7% of remaining public side lead connections up to the end of 2024 means it is highly unlikely that Irish Water will be able meet the targets it set in its' "Lead in Drinking Water Mitigation Plan" to replace all lead services by 2026.

Under normal circumstances, the WAB expects to see the continued replacement of lead services until the completion date of 2026.

Boil Water Notices

The WAB notes the majority of boil water notices over the last seven quarters are long-term notices, which means they are in place for more than 30 days. This means that the solution to remove the boil water notice was not straightforward and involved significant structural investment by Irish Water. The WAB wishes to see boil water notices in place for as short a period as possible. The WAB also notes with concern that the number of people affected by boil water notices at the end of Quarter 3 2021 had increased on the previous quarter.

Other Developments

Commission for the Regulation of Utilities' Irish Water Performance Assessment Framework 2020-2024 Decision

A Performance Assessment Framework was first set out by the Commission for Regulation of Utilities in 2016 to provide a basis for the assessment of Irish Water's overall performance against a number of defined metrics across five categories: customer service, environmental performance, water supply – quality of service, security of water supply and wastewater (sewerage) service. At that time, the Commission for Regulation of Utilities did not set targets for Irish Water's performance under each of the metrics. To date, the Commission for Regulation of Utilities has published reports setting out Irish Water's progress under the agreed metrics in the 2016 Framework.

During 2020, the Commission for Regulation of Utilities carried out a review of the Framework for the period 2020 to 2024 to ensure that the metrics outlined in the 2016 Framework remain fit for purpose and reflective of the Commission for Regulation of Utilities' decision on Irish Water's allowed revenue for that period (termed the third revenue control or Revenue Control 3 period). The Commission for Regulation of Utilities subsequently published a decision paper (CRU21101) which sets the service areas, specific metrics and target levels of performance it will monitor Irish Water against for the Revenue Control 3 period.

Environmental Protection Agency's Water Quality in 2020: An Indicators Report

The WAB notes the concerns expressed by the Environmental Protection Agency that Ireland's water quality is currently under threat with nitrogen pollution from agriculture causing particular pressure in parts of the south, southeast and east of the country. It also notes the urgent need to address nitrogen pollution so that the water quality in these areas can be protected and restored. Failing to do so could mean further deterioration in water quality in Ireland.

While progress is being made by Irish Water in reducing the number of waste water plants on the Environmental Protection Agency's priority action list, continued and sustained investment is needed to address water quality issues from urban waste water and to meet Ireland's Water Framework Directive objectives.

Ballymore Eustace and Gorey water treatment plants

Ballymore Eustace is the largest drinking water treatment plant in the country serving approximately 877,000 consumers across Kildare, Meath and Dublin City and County producing approximately 310 Megalitres – 320 Megalitres of treated drinking water per day.

On Tuesday 1 September, Irish Water informed the Environmental Protection Agency of an alum dosing incident at the plant, which occurred on the 20 August, 12 days earlier, but had only come to Irish Water's attention the previous day.

The root cause of the incident was a mechanical pump failure that took a number of hours to fix as well as an issue with the chlorine dosing system.

The Gorey Creagh water treatment plant serves 7,241 consumers in Co. Wexford. On the evening of Thursday 26 August, Irish Water informed the Environmental Protection Agency of an incident where inadequately disinfected water went into supply from the Creagh Water Treatment plant over the period 19-24 August, seven days after the incident commenced. The root cause was a power failure on the evening of the 19 August, which caused the chlorine pump to fail and compromised the disinfection system at the plant.

The Environmental Protection Agency conducted an audit on each incident, which identified Irish Water's failings in managerial oversight in delivering their role to supply safe and secure drinking water from Ballymore Eustace and Gorey. This was evidenced at the Local Authority level through failings in operational control and responsiveness. The common issues identified include:

- a basic lack of awareness and understanding amongst operational and management staff as to the significance of the incidents and their impact on the drinking water quality and risk to public health;
- a lack of awareness of the requirement to communicate and escalate such an incident to Irish Water preventing the opportunity to assess the need for a boil water notice and to protect public health;
- a lack of critical alarm settings to inform operators of deteriorating water quality;
- no documented alarm or incident response procedures; and
- no automatic shutdown of the plant in the event that critical alarms are activated.

The review of both audits is outlined in Section 3 of this report. The WAB is particularly concerned by the failings highlighted by these incidents, the risk to public health and failures in communication and escalation and Irish Water's lack of oversight of drinking water plants. The WAB will continue to monitor Irish Water's response in addressing the findings from the Environmental Protection Agency's findings.

Part 1
Introduction

The Water Advisory Body (the WAB) is established under statute. The WAB consists of five members:

Paul McGowan
Chairperson

Martin Sisk

Miriam McDonald

Dónal Purcell

Michelle Minihan

Improving the transparency and accountability of Irish Water

Our overall function is to advise the Minister on the measures needed to improve the transparency and accountability of Irish Water for the purpose of increasing the confidence of members of the public in Irish Water. The WAB's functions are set out in the Water Services Act 2017.

Irish Water's Strategic Funding Plan is a public document and available on Irish Water's website www.water.ie.

This report sets out the WAB's view on how Irish Water is performing against its own Strategic Funding Plan. Each report is prepared for the Oireachtas and is published on the WAB's website – www.wateradvisorybody.ie.

Performance Indicators in this Report

The WAB has chosen a set of performance indicators to provide a broad view of Irish Water's performance, that are a useful reflector of performance that can be used to monitor Irish Water's performance. The WAB will keep these performance indicators under review to make sure that they remain relevant and continue to be good measures of performance. In the accompanying appendix, we explain each indicator and why it is important.

There are some areas of interest to the WAB where data are not available. These include cost reduction and efficiency improvements, procurement, remuneration and staffing policies of Irish Water. They also include Irish Water's performance in terms of responsiveness to the needs of communities and enterprises.

The absence of data requires the WAB to take a different approach to measuring performance in these areas. A few examples are set out below:

Irish Water procurement, remuneration and staffing policies

In relation to procurement, remuneration and staffing policies Irish Water commissioned an independent audit on procurement, reporting directly to the WAB.

The "Review of Irish Waters procurement and contract policies and procedures to ensure compliance against PD02 and PD03" covered procurement policies and procedures and was published in Quarter 2 of 2021.The full report can be found at https://wateradvisorybody.ie/wp-content/uploads/2021/07/Review-of-Irish-Waters-procurement-policies-and-procedures.pdf

Irish Water's Responsiveness to the Needs of Communities and Enterprises

The WAB is currently investigating Irish Water's performance in this area. WAB has commissioned local surveys to determine views of Irish Water customers in relation to communications from and contact with Irish Water. These local surveys will seek to establish the views of customers on communication and contact by Irish Water in terms of clarity, timeliness, efficiency, professionalism, ease of next steps, contact and overall experience. The WAB hopes to publish and comment on the findings of these surveys in Q1 2022.

Part 2
Key Performance Indicators

The WAB has selected eleven performance indicators, each measuring the performance of Irish Water under a different heading.

These headings are:

- infrastructure delivery and leakage reductions (6 indicators);
- improvements in water quality (3 indicators); and
- the responsiveness of Irish Water to the needs of communities and enterprise (2 indicators).

This report displays each of the eleven performance indicators. A commentary is provided only on those performance indicators which have been updated in this Quarterly Report. Where available, the targets that Irish Water is working to in relation to each indicator are also set out.

For each indicator, the Appendix to this report includes a brief explanation of the indicator and the reason why the indicator is important.

The WAB will continue to refine indicators to ensure they remain a useful measure of the performance of Irish Water.

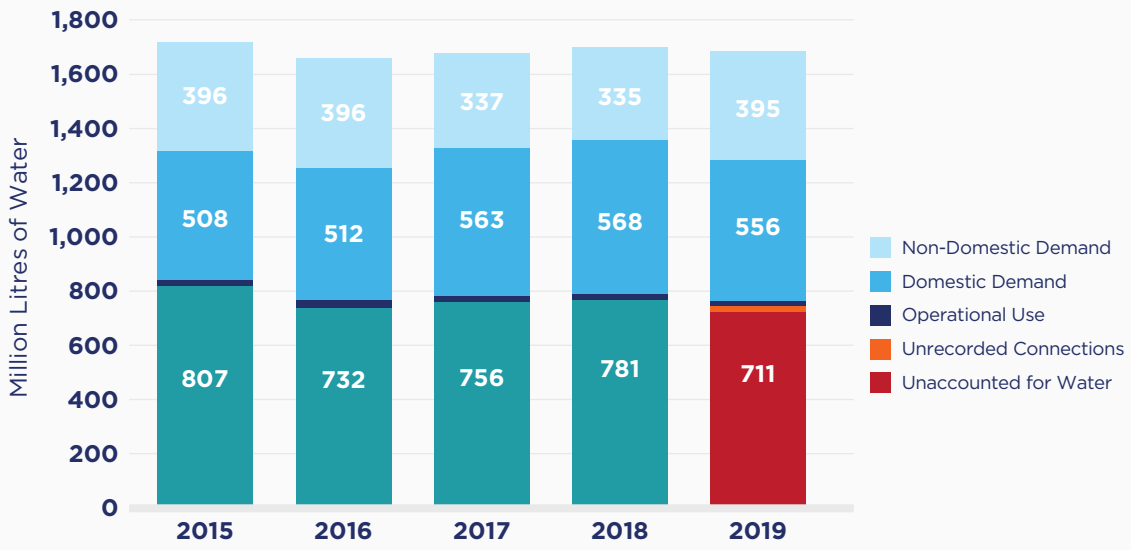
2.1 Infrastructure Delivery and Leakage Reductions Indicators

This metric is not updated in this report. This metric was last updated in the Water Advisory Body Quarterly Report No.2 of 2020.

2.1.1 Performance Indicator 1 - Leakage

Figure 1

Annual Average Daily Water Demand (millions of litres or Megalitres of water per day)



2.1.2 Performance Indicator 2 - First Fix Scheme

This Performance Metric has been updated in this report and is based on information valid up to the end of Quarter 2 2020.

Figure 2
Combined total of Irish Water and Customer Leak Repairs completed each Quarter

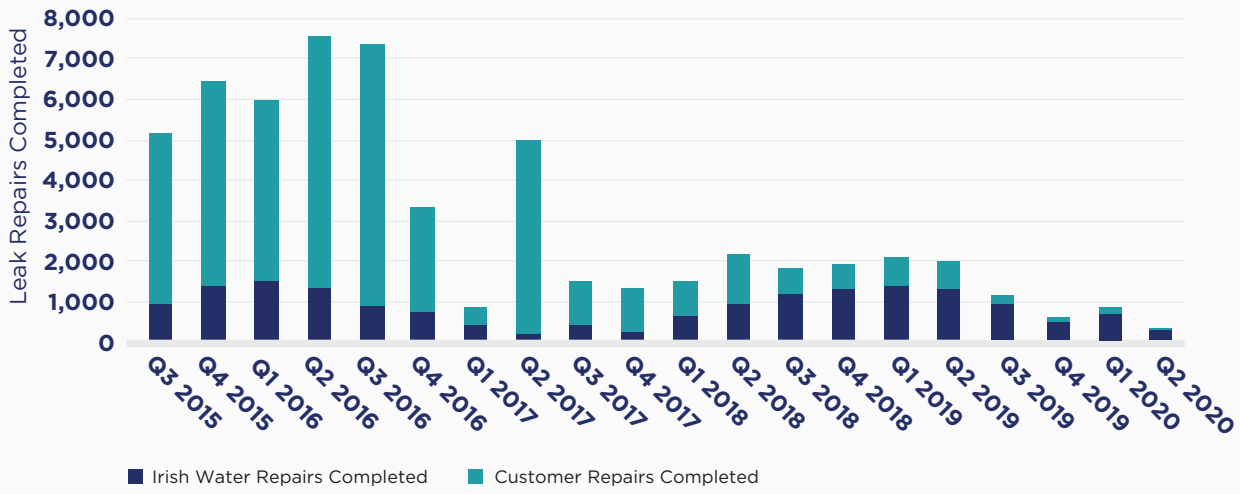
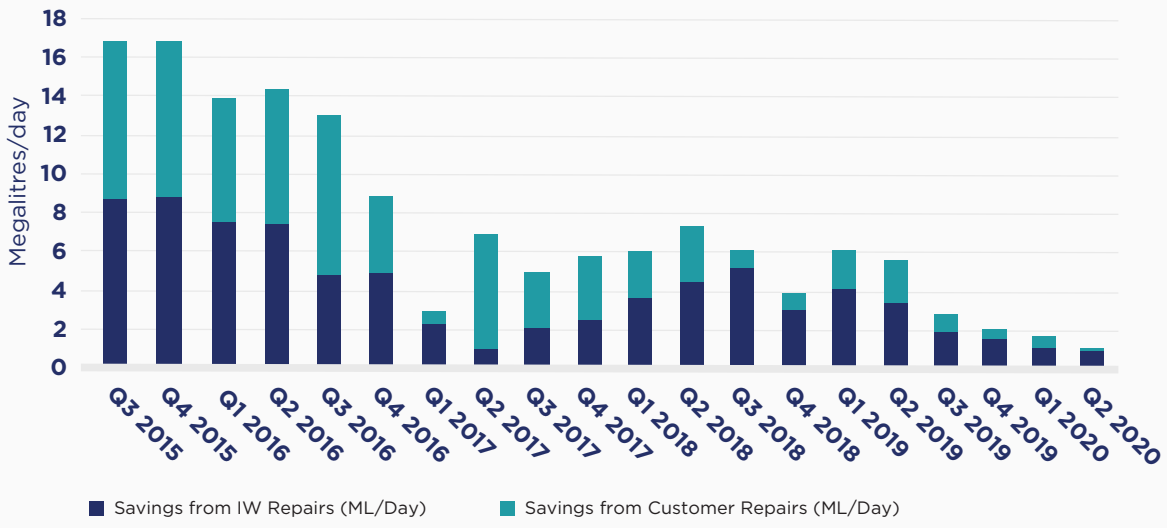


Figure 3
Combined total Savings in Megalitres/day of Irish Water and Customer Leak Repairs completed each quarter



Between the introduction of the First Fix Scheme in 2015 and Quarter 2 2020, the cumulative water savings are estimated by Irish Water to be 157.62 Megalitres/day. A cumulative estimated total of 82.70 Megalitres/day has been saved through repairs carried out by Irish Water and a further estimated 74.92Megalitres/day of water has been saved through repairs carried out by customers.

Figure 2 shows the number of leak repairs per quarter completed by both Irish Water and the customer. The highest number of leak repairs carried out by Irish Water to date was completed in Quarter 2 2016 while the lowest number was completed in Quarter 2 2017. The highest number of leak repairs carried out by customers to date were completed in Quarter 3 2016, while the lowest number was completed in Quarter 2 2020.

Figure 3 shows the total savings in Megalitres/day estimated by Irish Water as a result of both Irish Water and customer leak repairs each quarter. The highest estimated savings in Megalitres/day as a result of leak repairs carried out by Irish Water took place in Quarter 3 of 2015, while the highest savings in Megalitres/day as a result of leak repairs carried out by customers took place in Quarter 3 of 2016.

Commentary

In Quarter 2 of 2020, a total of 312 leak repairs were completed. 300 of these repairs were external to the customer property and were carried out by Irish Water, and the remaining 12 leaks were internal to the customer property and repaired by the customer. As of Quarter 2 of 2020, Irish Water had completed approximately 18,150 leak repairs and customers had completed approximately 43,500 leak repairs in total. Irish Water estimates that the scheme has saved nearly 157 million litres (Megalitres) of water per day up to the end of Quarter 2 of 2020.

Project expenditure is reported quarterly in arrears. The cumulative total expenditure up to the end of Quarter 2 2020 is €47,102,765 consisting of €24,297,775 for leak investigations, €18,491,277 for repairs and €4,313,712 for additional costs[1]. This expenditure is within the original allowed funding amount of €51 million for the Scheme. Irish Water has been approved additional funding for the First Fix Scheme over the revenue control period, from 2020 to 2024.

Specific targets have not been set for Irish Water in respect of the First Fix Scheme. This is because availing of a leak investigation and possible First Fix requires a good level of customer engagement to meet any target. Figure 2 shows a decline in the number of leak repairs completed since Quarter 1 2020. Figure 3 also demonstrates a continued and disappointing drop-off in the number of leak repairs completed under the scheme since mid-2016. This coincides with the suspension and eventual abolition of domestic water charges. Additionally, Irish Water's First Fix Scheme operations were impacted by Covid-19 restrictions during Quarter 2 2020 and this is reflected in the figures reported for this metric.

The Household Water Conservation (Excess Use Charges) Policy is expected to be introduced in late 2021 or early 2022, with first bills expected to issue in late 2023 or 2024. It is expected that this will encourage customers to avail of the Scheme and that higher numbers of leak repairs will be achieved in the future. Future WAB reports will continue to monitor the rate of First Fix repairs by Irish Water and customers.

1 **Source:** Irish Water Leakage Reduction Programme - First Fix Leak Repair Scheme - For Domestic Water Customers - Quarterly Report Quarter 2 2020

2.1.3 Performance Indicator 3 - Remedial Action List (Water)

This Performance Metric has been updated in this report and is based on information valid up to the end of Quarter 2 2021.

Figure 4
The population served by drinking water supplies included on the Remedial Action List from Quarter 1 2018 to end Quarter 1 2021

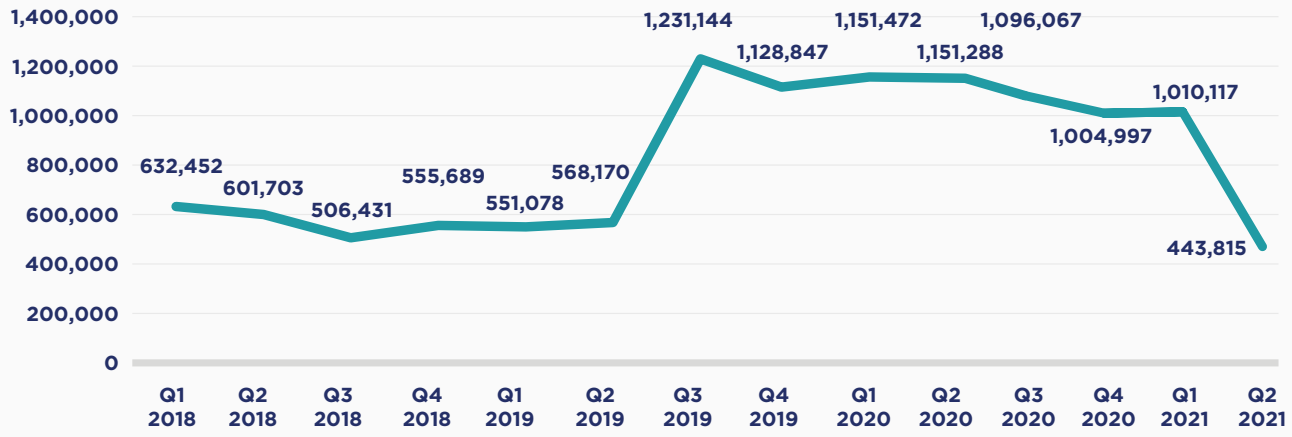


Figure 4 shows the population served by drinking water supplies included on the list from Quarter 1 2018 to end Quarter 2 2021. The figures show a general downward trend in both the number of drinking water supplies on the list and the population that these supplies serve: however, the addition of the Leixlip supply to the Quarter 3 2019 Remedial Action List changed this. The number of supplies on the Remedial Action List increased by five at the end of Quarter 2 2021, with the population served by these supplies standing at 443,815.

Under normal circumstances, the WAB would expect a continual reduction in the number of supplies on the Remedial Action List.

Under normal circumstances, the WAB would expect a continual reduction in the number of supplies on the Remedial Action List.

Commentary

At the end of Quarter 2 2021 the Remedial Action List contained 53 water supplies, which is an increase of five supplies since the end of Quarter 1. The most recent supplies removed from the Remedial Action List (Quarter 2 2021) were Leixlip and Liscarton. Six supplies were added to the Remedial Action List including Clare Island (Co.Mayo), Burncourt Ballylooby (Co. Tipperary), Nenagh Regional (Co. Tipperary), Carlow North Regional (Co. Carlow) West Clare (old) (Co. Clare) and Kereen (Co. Waterford). The decrease in the population served by supplies on the Remedial Action List from Quarter 1 2021 to Quarter 2 2021 was 566,302 consumers which was mainly due to the removal of Leixlip from the Remedial Action List. The number of supplies on the Remedial Action List has increased for a second quarter and the WAB notes and supports the Environmental Protection Agency's concern at this development.

Two supplies already on the Remedial Action List had additional categories added to them – Caragh Lake (Co. Kerry) for persistent Trihalomethanes exceedances and West Clare (new) (Co. Clare) for Environmental Protection Agency audit observations – treatment and management issues.

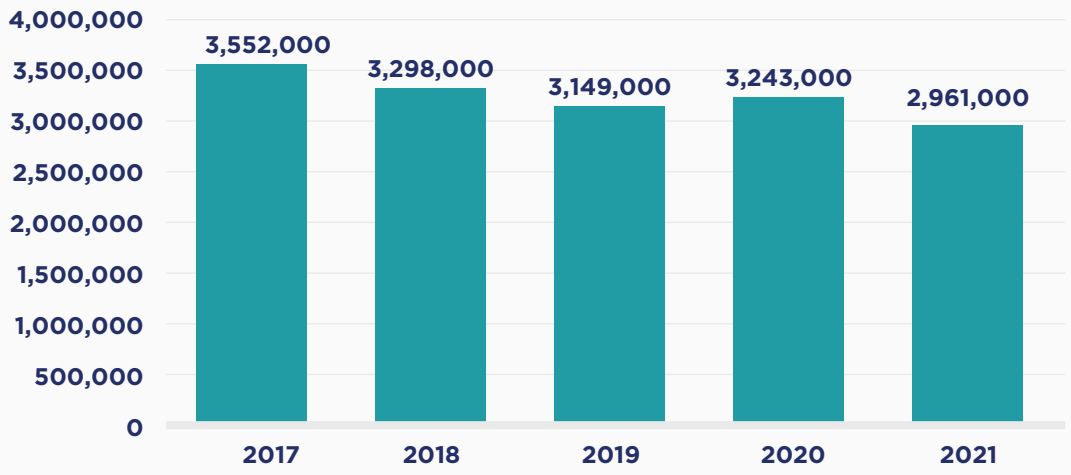
The WAB notes the concern of the Environmental Protection Agency at the re-addition of the Caragh Lake Public Water Supply for persistent Trihalomethanes exceedance to the Remedial Action List. This supply was removed from the Remedial Action List in Quarter 3 2020 following remedial upgrade works to address the Trihalomethanes exceedances. Irish Water must ensure that where supplies are removed from the Remedial Action List, that there is ongoing vigilance and oversight in the operation of water treatment plants so that those supplies remain in compliance. Progress on these supplies continues to be tracked and reported to the European Commission as part of the Trihalomethanes Infringement Proceedings against Ireland.

Future WAB reports will monitor the progress of Irish Water in identifying dates by which supplies on the Remedial Action List will be addressed and targets t to remediate those water supplies met. The WAB will also monitor the number of new drinking water supplies that are put on to the list in any quarter. The WAB expects that Covid-19 restrictions will continue to have some impact on the dates for supplies on the Remedial Action List and will continue to monitor Irish Water's progress to assess and address these delays in subsequent reports.

2.1.4 Performance Indicator 4 - Priority Urban Area List (Wastewater)

This metric has not been updated in this report. This metric was last updated in the Water Advisory Body Quarterly Report No.2 of 2021.

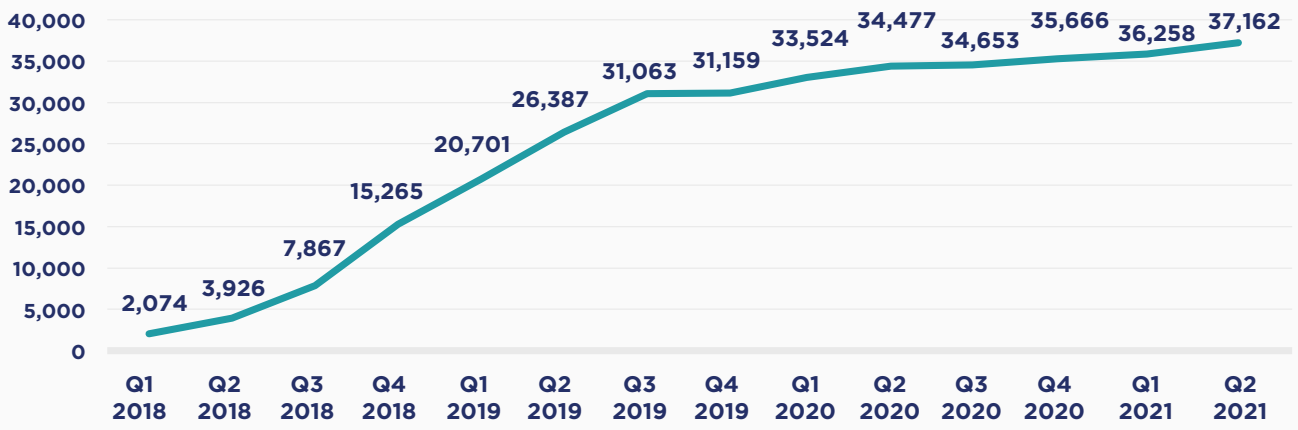
Figure 5
Population equivalent served by priority areas



2.1.5 Performance Indicator 5 - Lead service connections replaced

This Performance Metric has been updated in this report and is based on information valid up to Quarter 2 2021.

Figure 6
Total lead connections replaced (cumulative)



Commentary

Irish Water has an annual target for replacements, which again this year was significantly and substantially reduced from the 2019 target. The target for 2021 is 1,500 replacements, with a target of 13,231 for the entirety of Revenue Control period 3[2]. During Quarter 2 2021, Irish Water replaced 908 lead service connections.

Figure 6 above shows that the rate of progress of lead connection replacements up to end of Quarter 2 2021, which demonstrates that progress has slowed significantly when compared to the progress made during since 2019. It has plateaued over the last six quarters. Replacement of lead connections recommenced in Quarter 3 2020 following restrictions imposed due to Covid-19. A stimulus package from Government during 2020 allowed some additional funding to be allocated towards lead connection replacements towards the end of 2020.

Irish Water has continued to encounter difficulties in accessing shared and backyard service replacements, as some homeowners have refused to sign the necessary consent forms for works to be carried out on private property. Irish Water continues to engage with these homeowners to get these consent forms signed. Irish Water's target of 1,500 replacements during 2021 is lower because they will concentrate efforts on back yard services, which can be more complex and more expensive to replace. At the end of Quarter 2 2021, Irish Water had replaced 1,472 connections which was ahead of the target for 2021, mainly due to more public side connections being replaced. Irish Water has assigned additional budget for lead replacements for the remainder of 2021.

2 https://www.cru.ie/wp-content/uploads/2019/07/CRU19148-Irish-Water-Revenue-Control-3-Decision-Paper.pdf

Figure 6 shows the cumulative number of lead connections replaced by Irish Water to date, with detailed replacement figures given for the last twelve quarters. This data is compiled by the Environmental Protection Agency on a quarterly basis.

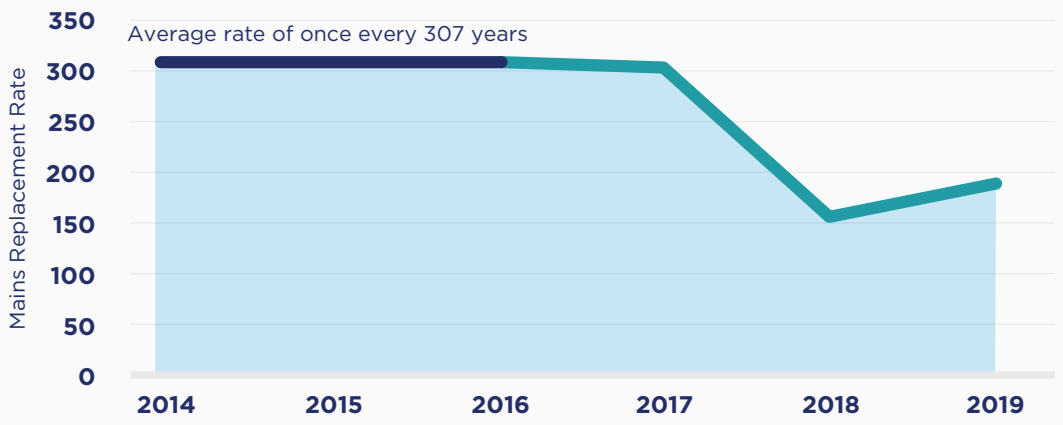
The WAB notes that Irish Water is on track to exceed its target for 2021 with regard to replacement of lead connections. Irish Water's target for the entire five-year term of Revenue Control period 3 (2020-2024) is to replace 13,231 lead connection. The WAB also notes the concerns expressed by the Environmental Protection Agency in its report "Drinking Water Quality in Public Supplies 2019"[3] where it highlighted that by the end of 2019, 17% of public side lead connections had been replaced. Irish Water's target to replace an additional 7% of remaining public side lead connections up to the end of 2024 means it is highly unlikely that Irish Water will be able meet the targets it set in its "Lead in Drinking Water Mitigation Plan"[4] to replace all lead services by 2026.

Under normal circumstances, the WAB expects to see the continued replacement of lead services until the completion date of 2026.

2.1.6 Performance Indicator 6 - Mains replacement rate (for water mains)

This metric has not been updated in this report. This metric was last updated in the Water Advisory Body Quarterly Report No.2 of 2020.

Figure 7
Mains replacement rate 2014 - 2019



3 http://www.epa.ie/pubs/reports/water/drinking/DW%20Quality%20in%20Public%20Supplies%202019_web.pdf

4 https://www.water.ie/docs/Lead-in-Drinking-Water-Mitigation-Plan.pdf

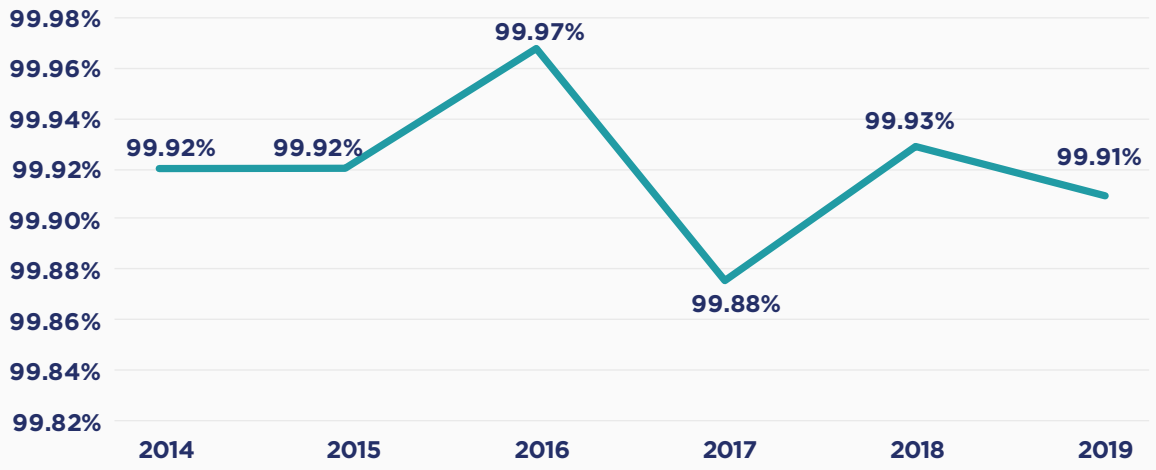
2.2 Improvements in Water Quality, including the elimination of Boil water notices

2.2.1 Performance Indicator 7 - Overall compliance with microbiological indicators for drinking water

This metric has not been updated in this report. This metric was last updated in the Water Advisory Body Quarterly Report No.2 of 2020.

Figure 8

Percentage of Samples complying with the E.coli Standard



2.2.2 Performance Indicator 8 - Boil Water Notices

This Performance Metric has been updated in this report and is based on information valid up to the end of Quarter 2 2021.

Figure 9

Boil water notices at the end of each quarter

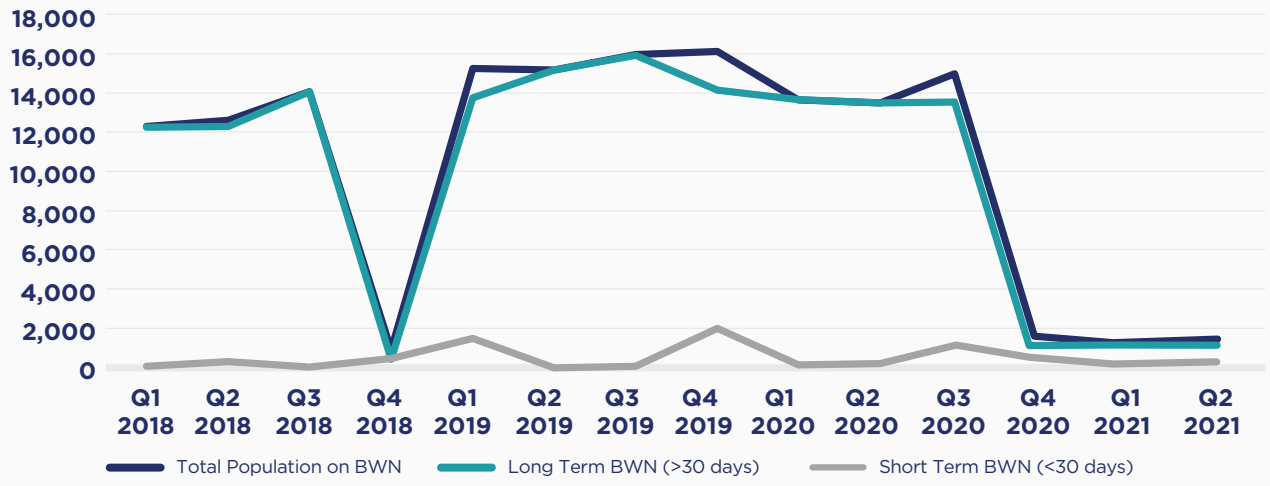


Figure 9 shows the total population on boil water notices at the end of Quarter 2 2021. The graph also shows how long those boil water notices have been in place by showing the population on boil water notices for less than thirty days and the population on boil water notices for more than thirty days.

Commentary

Under normal circumstances, the WAB expects that no consumer should be on a long-term Boil Water Notice. Boil water notices should be kept at low levels and for as short a period as possible.

At the end of Quarter 2 2021, 1,344 people were on boil water notices which is an increase on the population on boil water notices at the end of the previous quarter (1,087 people). The WAB notes with concern the increase in the number of people on a boil water notice at the end of Quarter 2 2021.

During Quarter 2, 2021 the WAB notes that boil water notices had also been issued for the following supplies: Borrisokane (1,752 consumers), Glenary (three consumers), Abbeyfield Housing Estate Clonard (328 consumers) and Galway City (194 consumers). The WAB will continue to monitor the number of people affected by short-term boil water notices, particularly where for supplies where notices need to be put in place on more than one occasion.

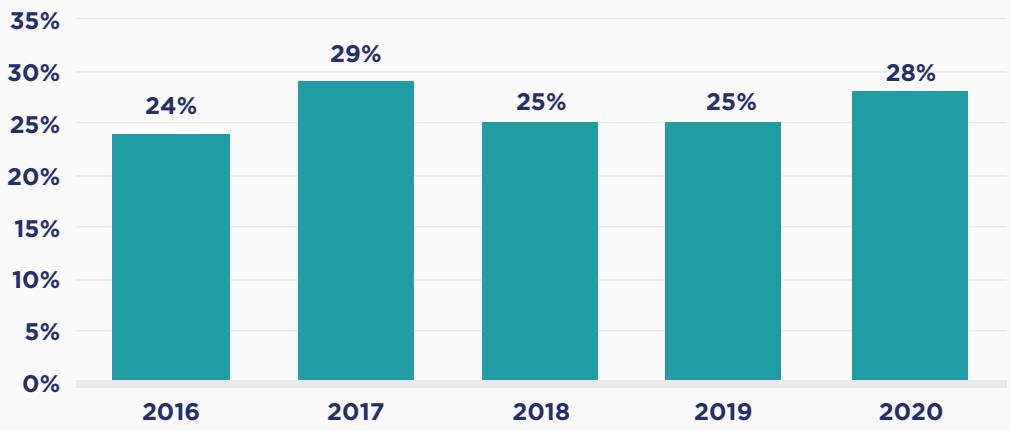
At the end of Quarter 2 2021, 15 of the 16 boil water notices (serving 1, 344 people) were in place for more than 30 days. This means that the solution to fix the problem with the plant could not be addressed quickly and requires significant investment by Irish Water. The WAB notes with continuing concern the trends for long term boil water notices highlighted by the Environmental Protection Agency. It will continue to monitor Irish Water's progress in this area and in ensuring that boil water notices remain in place for as short a period of time as possible.

2.2.3 Performance Indicator 9 - Compliance of Urban Waste Water Treatment (UWWT); Plants with Environmental Protection Agency discharge licences

This metric has not been updated in this report. This metric was last updated in the Water Advisory Body Quarterly Report No.2 of 2021.

Figure 10

Percentage of Population served by compliant Urban Waste Water Treatment plants (by population equivalent)[7]



2.3 Responsiveness to the needs of Communities and Enterprise

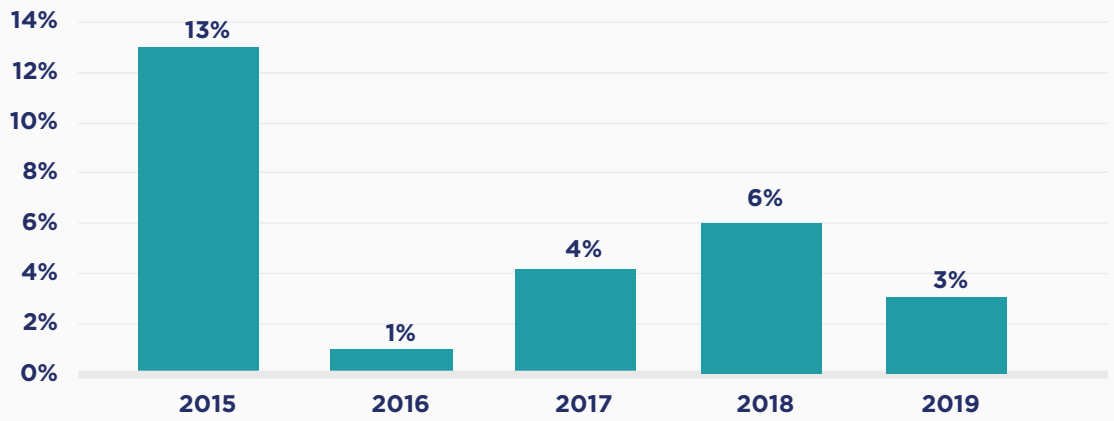
2.3.1 Performance Indicator 10 – Ease of Contact

This metric has not been updated in this report. This metric was last updated in the Water Advisory Body Quarterly Report No.3 of 2020.

In terms of the Ease of Contact performance indicator, the Commission for Regulation of Utilities has chosen four separate metrics:

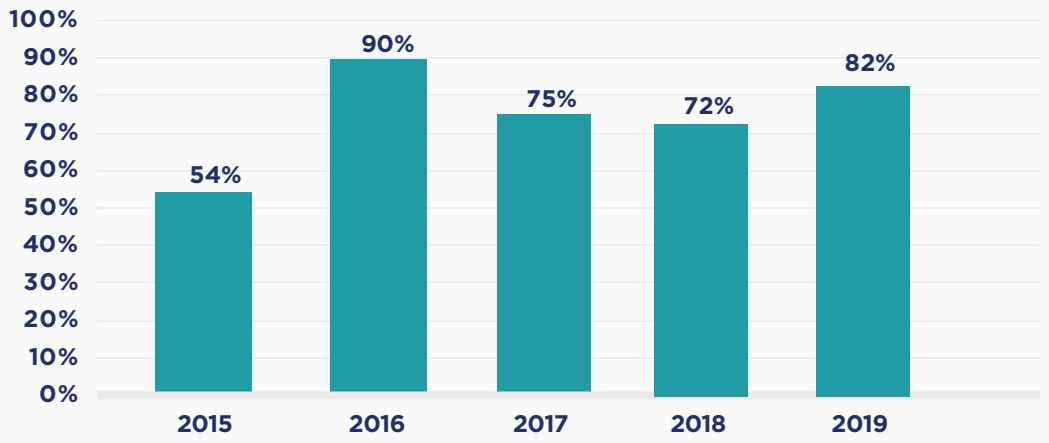
The Call Abandonment Rate metric is the percentage of calls that are abandoned while a caller is waiting in the queue to speak to an agent (having been directed through the Interactive Voice Recognition system).

Figure 11
Call Abandonment Rate



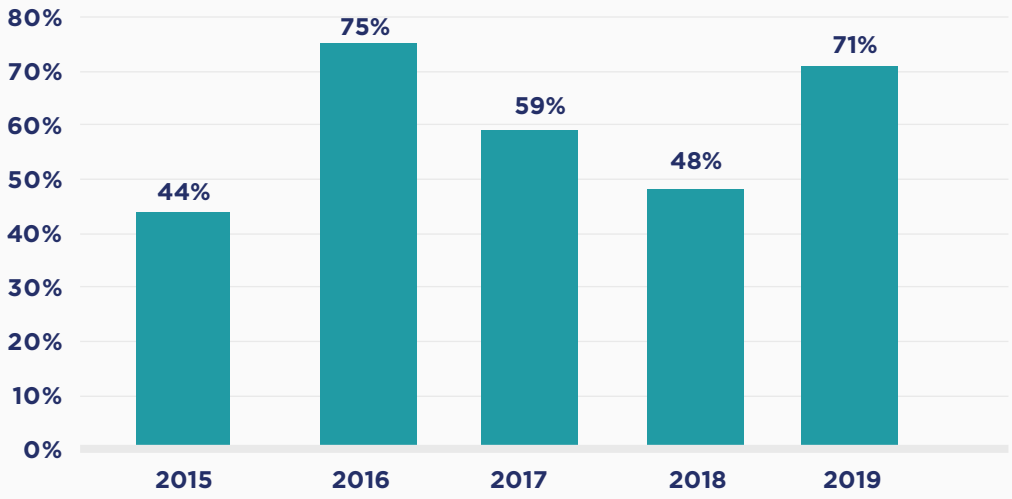
The Speed of telephone response by Irish Water is measured by two separate telephone service factors. The first metric, Telephone Service Factor 1 (TSF 1) measures the percentage of calls that enter a queue to speak to an agent which are answered within 20 seconds.

Figure 12
Telephone Service Factor 1: Calls answered by Agent within 20 seconds



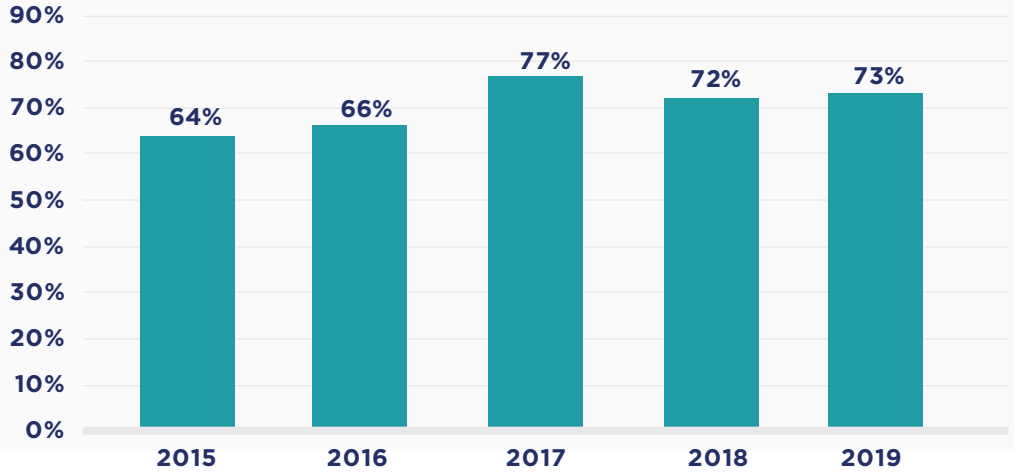
The second metric, Telephone Service Factor 2 (TSF 2), measures the number of calls that are dealt with through the Interactive Voice Recognition system as well as the number of calls when placed in a queue to speak to an agent (after going through the Interactive Voice Recognition system) answered by an agent within 20 seconds.

Figure 13
Telephone Service Factor 2: Calls dealt with through Interactive Voice Recognition & calls answered by Agent within 20 seconds



The Customer Satisfaction metric measures customer satisfaction levels of their experience dealing with Irish Water through phone contact. A survey is conducted by an independent research company, where customers rate their satisfaction level on a ten-point scale.

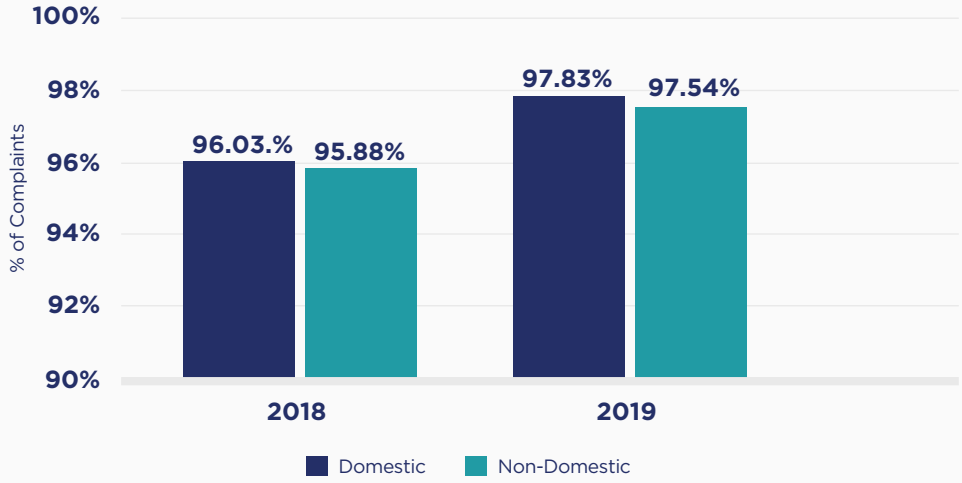
Figure 14
Customer Satisfaction Scores



2.3.2 Performance Indicator 11 - Irish Water Customer Complaints management

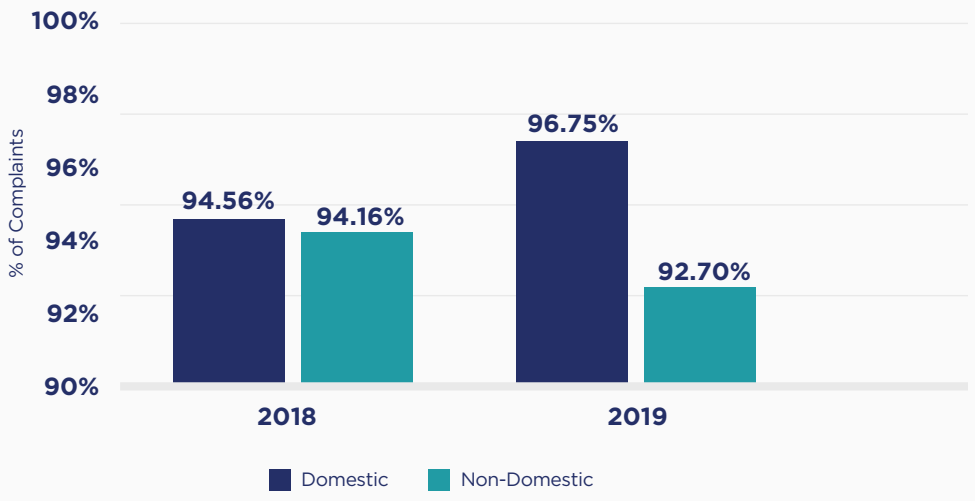
This metric has not been updated in this report. This metric was last updated in the Water Advisory Body Quarterly Report No.3 of 2020.

Figure 15
Response to Complaints within 5 working days



Note that for complaints responded to within five days, data in 2018 is provided by Irish Water from Quarter 2 – Quarter 4 only.

Figure 16
Response to Complaints (with Final Decision) within 2 months



Part 3
Key Events

3.1 Commission for Regulation of Utilities' Irish Water Performance Assessment Framework 2020-2024 Decision

The Performance Assessment Framework (the Framework) was first set out by the Commission for Regulation of Utilities in 2016 to provide a basis for the assessment of Irish Water's overall performance against a number of defined metrics across five categories: customer service, environmental performance, water supply – quality of service, security of water supply and wastewater (sewerage) service. At that time, the Commission for Regulation of Utilities did not set targets for Irish Water's performance under each of the metrics. To date, the Commission for Regulation of Utilities has published reports setting out Irish Water's progress in collecting data and reporting report under the metrics in the 2016 Framework.

During 2020, the Commission for Regulation of Utilities carried out a review of the Framework for the period 2020 to 2024 to ensure that the metrics outlined in the 2016 Framework remain fit for purpose and reflective of the Commission for Regulation of Utilities decision on Irish Water's allowed revenue for that period (termed the third revenue control or Revenue Control 3 period). The Commission for Regulation of Utilities subsequently published a consultation paper regarding this review in October 2020. Following that consultation, the Commission for Regulation of Utilities' decision paper (CRU21101) sets the service areas, specific metrics and target levels of performance it will monitor Irish Water against for the Revenue Control 3 period.

For consistency of reporting, and to monitor Irish Water's performance over time, the Commission for Regulation of Utilities considers that metrics should be retained where they remain appropriate. Where it has been found that a metric no longer presents meaningful information – for example due to technological advances or a change in the priorities of Irish Water or the Commission for Regulation of Utilities – the Commission for Regulation of Utilities has decided to alter or discontinue these metrics as appropriate. New or revised metrics are included where a key area of performance has not been included in the 2016 Framework or where the revised metric is considered to be a more meaningful basis for the measurement of performance than the original version of the metric.

In addition to reviewing the appropriateness of the metrics, the Commission for Regulation of Utilities considered target levels of performance for each metric in the Framework for Irish Water to achieve. In setting these targets the Commission for Regulation of Utilities sought to strike a balance between targets that challenge Irish Water but are achievable. In doing so the Commission for Regulation of Utilities considered the following:

- the monies that the Commission for Regulation of Utilities has allowed Irish Water to expend on operations and capital investments, including non-network investments such as Information Technology systems, for the Revenue Control 3 period and the associated commitments made by the utility in that context;
- the operational, capital and non-network capital expenditure that Irish Water has been allowed in the period to 2020;
- requirements on Irish Water in relation to customer service standards as set out in the Commission for Regulation of Utilities Domestic and Non-Domestic Customer Handbooks;
- targets and performance of other utilities regulated by the Commission for Regulation of Utilities;
- targets and performance of other water services companies in neighbouring jurisdictions (Northern Ireland, Scotland, England and Wales);
- environmental compliance requirements; and
- responses to the Commission for Regulation of Utilities consultation paper.

The Commission for Regulation of Utilities expects Irish Water to challenge itself to reach the required level of performance. If, in exceptional circumstances, it fails to do so, the Commission for Regulation of Utilities will carefully consider the reasons and evidence provided by Irish Water for this failure when assessing Irish Water's performance against the relevant target. The Commission for Regulation of Utilities notes that if Irish Water fails to reach a target in relation to a given metric in a given year, due to exceptional circumstances, it should continue to strive to meet the targets in the remaining years up to and including 2024.

Irish Water makes annual submissions to the Commission for Regulation of Utilities under the Framework detailing its performance under the metrics for the previous year where available. The most recent published information papers regarding Irish Water's performance under the Framework are available here[5].

A summary of the Commission for Regulation of Utilities decisions regarding the metrics and associated targets for the end of 2024 is set out below.

As data is not yet available on all metrics, the Commission for Regulation of Utilities has included interim reporting targets for Irish Water to enable target-setting at a later stage. In some cases, Irish Water is establishing systems and finalising work to enable reporting on metrics previously included in the Framework. For example, Irish Water must publish its decision on the National Water Resources Plan to report on security of supply. The National Water Resources Plan will identify any existing and potential shortfalls in meeting water demand under normal and critical weather conditions, based on a defined methodology and level of service, in all of Irish Water's water resource zones. It will also set out Irish Water's methodology for assessing options to address supply deficits, where identified. When this is completed and reporting under the security of supply metric begins, the Commission for Regulation of Utilities can then engage with Irish Water to determine appropriate targets to the end of the period.

Where new metrics are being introduced that had not previously been included in the Framework, Irish Water is to report under these metrics during the period so that a baseline performance is established by the end of 2024. Once a baseline performance is established, the Commission for Regulation of Utilities can then use this to inform and set appropriate targets. These metrics include, for example, a review of the Customer Satisfaction Survey, monitoring of external sewer incidents and monitoring compliance with Emissions Limit Values.

5 https://www.cru.ie/document_group/irish-water-performance-assessment/

Summary of the Commission for Regulation of Utilities decisions regarding the metrics and associated targets				
TABLE OPTION 2				
Metric Name		**Metric Definition**	**2019 Performance**	**Target 2024**
Customer Service	Ease of telephone contact: Speed of telephone response	The Commission for Regulation of Utilities will monitor the percentage of calls picked up by an agent within 20 seconds in the queue	82%	85%
	Ease of telephone contact: Speed of telephone response (2)	N/A – Metric to be discontinued	-	-
	Ease of telephone contact: Call abandonment rate	The Commission for Regulation of Utilities will monitor the percentage of calls that are abandoned while a caller is waiting in the queue to speak to an agent having been directed through the Interactive Voice Recognition (IVR) system	3%	4%
	Ease of telephone contact: First call resolution	The Commission for Regulation of Utilities will monitor the percentage of calls to Irish Water that are dealt with within one phone call	87% Billing 77% Operations	90% Billing 80% Operations
	Billing of metered customers	The Commission for Regulation of Utilities will monitor: a) the number of bills based on a meter read as a percentage of bills issued to metered accounts b) the percentage of metered accounts billed during the year that received at least one bill based on a meter read	70%	70%
			N/A – new metric introduced	100%
	Response to billing contacts	The Commission for Regulation of Utilities will monitor the percentage of billing contacts answered and closed out within 5 working days	94.99%	95%
	Response to complaints	The Commission for Regulation of Utilities will monitor the number of complaints: a) responded to within 5 working days, either with a resolution or an outline plan of the proposed resolution b) to which a final decision is issued within 2 months	97.83% Domestic 97.54% Non-Domestic	100%
			96.75% Domestic 92.70% Non-Domestic	100%
	Unresolved complaints upheld by Commission for Regulation of Utilities Customer Care Team	The Commission for Regulation of Utilities will monitor the number of unresolved complaints upheld by the Commission for Regulation of Utilities Customer Care Team (CCT)	N/A – new metric introduced	Better than average across utilities or suppliers monitored by Commission for Regulation of Utilities Customer Care Team
	Customer Satisfaction Survey	The Commission for Regulation of Utilities will monitor Irish Water's performance in a survey conducted by an independent research company engaged by Irish Water	73%	Establish baseline performance under new survey
	Stakeholder Engagement	The Commission for Regulation of Utilities will monitor Irish Water engagement with its stakeholders through a stakeholder panel	N/A – new metric introduced	Commission for Regulation of Utilities to establish Stakeholder Panel on a pilot basis

Security of Water Supply	Security of Water Supply	The Commission for Regulation of Utilities will monitor: a) an overall Security of Supply Index b) the number of water resource zones in deficit and the population served by those resource zones	N/A – not yet reported by Irish Water	Publish National Water Resources Plan Framework and 4 Regional Plans by end 2021
	Leakage	The Commission for Regulation of Utilities will monitor: a) the amount of water lost on the public network b) the amount of water lost on customer supply pipes	Irish Water to provide by 31st December 2021	Public: 161 Ml/day Customer supply pipes: 15 Ml/day
Quality of Water Supply	Interruptions to Supply	The Commission for Regulation of Utilities will monitor the minutes of lost supply from both planned and unplanned interruptions. The Commission for Regulation of Utilities will monitor the number of properties experiencing unplanned interruptions to their supply for greater than 12 and 24 hours.	N/A – new metric introduced	Minutes lost: Establish baseline by 2024
			>12: 24.1% connected properties	>12: <12% connected properties
			>24: 7.2% connected properties	>24: <3.6% connected properties
	Drinking Water Quality	▸ Percentage microbiological compliance ▸ Percentage E. Coli compliance ▸ Percentage Enterococci compliance ▸ Percentage chemical compliance ▸ Percentage Trihalomethanes compliance ▸ Percentage lead compliance	▸ 99.91% ▸ 99.93% ▸ 99.8% ▸ 99.6% ▸ 96.1% ▸ 97.81%	▸ 99.9% ▸ 99.9% ▸ 99.9% ▸ 99.9% ▸ 99.0% ▸ 98.48%
	Boil Water Notices and Drinking Water Restriction Notices	The Commission for Regulation of Utilities will monitor: a) The number of public supplies and the population served on Boil Water Notices for greater than 30 days b) The number of public supplies and the population served on Drinking Water Restriction Notices for greater than 30 days	N/A – metric altered	0

Sewer Incidents	Internal Sewer Incidents (Overload)	The Commission for Regulation of Utilities will monitor the number of properties affected by incidents where wastewater enters a building due to the overload of a sewer	N/A – not yet reported by Irish Water	To be set when baseline performance established in 2022
	Internal Sewer Incidents (Other Causes)	The Commission for Regulation of Utilities will monitor the number of properties affected by an incident where wastewater enters a building caused by equipment failure in a sewer, blockage or collapse of a sewer	N/A – not yet reported by Irish Water	To be set when baseline performance established in 2022
	Internal Sewer Incidents (Properties at Risk)	The Commission for Regulation of Utilities will monitor the number of properties considered to be at risk of having wastewater enter their premises, caused by overload (banded approach)	N/A – not yet reported by Irish Water	To be set after engagement on target in 2022
	External Sewer Incidents (Overload)	The Commission for Regulation of Utilities will monitor the number of external flooding incidents due to the overload of a sewer	N/A – new metric introduced	Establish baseline performance
	External Sewer Incidents (Other Causes)	The Commission for Regulation of Utilities will monitor the number of external flooding incidents caused by equipment failure in a sewer, blockage or collapse of a sewer	N/A – new metric introduced	Establish baseline performance
	External Sewer Incidents (Properties at Risk)	The Commission for Regulation of Utilities will monitor the number of properties considered to be at risk of external sewer incidents, caused by overload (banded approach)	N/A – new metric introduced	Establish baseline performance

Environmental Performance	Incidents Relating to Wastewater	The Commission for Regulation of Utilities will monitor the number of incidents resulting from wastewater collection and treatment activities	745 once-off 224 recurring 0 Category 3-5	<345 once-off <98 recurring 0 Category 3-5
	Wastewater Agglomerations Meeting Treatment Requirements: Agglomerations with no Wastewater Treatment	The Commission for Regulation of Utilities will monitor the number of agglomerations with no treatment or preliminary treatment only	35	0
	Compliance with the Emission Limit Values for Urban Wastewater Licences	▸ Overall compliance with the emission limit values for wastewater licences. ▸ Compliance with Biological Oxygen Demand limit values for wastewater licences. ▸ Compliance with Chemical Oxygen Demand limit ▸ Compliance with Suspended Solids limit ▸ Compliance with Ortho Phosphate limit, where applicable. ▸ Compliance with Ammonia limit, where applicable.	N/A – new metric introduced	Establish baseline performance
	Compliance with the treatment requirements of Urban Waste Water Treatment Directive	The Commission for Regulation of Utilities will monitor the total number of agglomerations meeting the treatment requirements of the Urban Waste Water Treatment Directive.	89%	100%
	Sludge Reuse and Disposal	The Commission for Regulation of Utilities will monitor the percentage of drinking water and wastewater sludge that is disposed of in a satisfactory manner	100% Drinking Water Sludge Wastewater sludge not yet reported by Irish Water	100%
Energy and Emissions	Energy Consumption	The Commission for Regulation of Utilities will monitor Irish Water's Total Primary Energy Requirement (TPER) in GWh	1,076.953 GWh	>40.71 GWh reduction
	Greenhouse Gas Emissions	The Commission for Regulation of Utilities will monitor Irish Water's energy-related emissions in CO_2 equivalent in line with its reporting to the Sustainable Energy Authority of Ireland (SEAI)	186,615,659 $kgCO_2$	To be determined when scope of emissions target decided by the Sustainable Energy Authority of Ireland

3.2 Water Quality in 2020: An Indicators Report

On 14 July 2021, the Environmental Protection Agency published the Water Quality in 2020: An Indicators Report which provides an assessment of the quality of Ireland's rivers, lakes, estuaries and groundwaters.

This report provides an update on the quality of water in Ireland's rivers, lakes, transitional and coastal waters and groundwater using information collected in 2020.

Water quality monitoring in Ireland is carried out under the Water Framework Directive (WFD). The Environmental Protection Agency undertakes a full assessment of the overall quality and ecological status of Ireland's waters every three years and it reports on the indicators of water quality in the intervening years. These indicators provide an update on the biological quality of our rivers and lakes and the nutrient concentrations in all the water categories[6]. It also includes information on the input of nutrients to our marine environment. Each indicator presents the current situation and where possible details of any recent changes or trends[7].

The full suite of indicators are:

1. River biological quality
2. Nitrate in rivers
3. Phosphate in rivers
4. Oxygen Demand in Rivers
5. Total phosphorus in lakes
6. Lake biological quality
7. Nitrogen in estuaries and coastal waters
8. Phosphate in estuaries and coastal waters
9. Nutrient inputs to the marine environment
10. Nitrate in groundwater

Currently the most significant pressure that is causing a decline in our water quality is increased concentrations of nutrients such as phosphorus and nitrogen, in particular, entering our waterways. These excess nutrients come primarily from agriculture and waste water.

These nutrients, in excessive concentrations, can lead to the over-growth of plants and algae that outcompete and displace other flora and fauna. This over-growth can also cause oxygen depletion and damage the ecology of our water bodies. High nitrate values in our drinking water supplies pose a risk to human health.

6 Biological quality is assessed based on macroinvertebrates and other biological elements and is a subset of overall ecological status. Indicators for other elements used to determine overall ecological status such as hydromorphology are not included in this report.

7 Trends are calculated using the Mann-Kendall and Sens slope tests where applicable.

The presence of too much phosphorus is a particular concern for the ecological health of our rivers and lakes while elevated levels of nitrogen can impact negatively on the quality of our estuaries.

Loss of phosphorus to water is a particular problem in agricultural areas with poorly draining soil, while the predominance of free draining soils in the south and southeast of the country increases the sensitivity of our estuaries to nitrogen pollution.

Oxygen levels in our waters can also be significantly reduced by organic pollution such as discharges of poorly treated sewage or animal waste from agriculture. Such pollution events leave very little oxygen for invertebrates and fish to survive and can often cause fish kills.

Just over half of our rivers and lakes are in good or high biological quality, meaning there is still a substantial amount of work to be done to bring the remaining waters back to a satisfactory standard. There are positive signs, however, that some rivers are showing evidence of improvement, particularly in the Priority Areas for Action (PAAs), and there has also been an increase in the number of river sites at high biological quality.

While this is a cause for hope, the number of river water bodies that have declined in quality (230 water bodies) is still too high. Unless this is addressed, sustained and progressive improvements in water quality will be difficult to achieve. It must also be noted that water bodies that improve in quality may still not be at a satisfactory quality e.g. a water body can improve from poor to moderate but still not meet its water quality objective of good or high quality.

The indicators show us that nutrient levels are too high in many of our waters, and in some areas trends are still going in the wrong direction. High nitrates are predominantly found in our rivers, groundwaters and estuaries in the south and southeast of the country, areas with intensive agriculture over freely draining soils. These areas are also exhibiting rising nitrate concentrations.

This is leading to an increase in the amount of nitrate reaching our coastal waters with inputs of nitrogen increasing by 26% since 2012-2014. There are strong indications that these nitrate inputs are increasing the level of pollution in our marine environment. Over a fifth of our estuarine and coastal waters have too much nitrogen in them, areas with the highest concentrations are in the south and southeast, and this is causing a problem by triggering nuisance algal blooms in many of our estuaries.

Agriculture and waste water are the predominant sources of nutrients in our waters. Recent analysis[8] by the Environmental Protection Agency shows that up to 85% of nitrogen in rivers in predominantly rural catchments in the south and southeast comes from agriculture. It is essential for the protection of our rivers, groundwaters and estuaries that urgent and focused action is taken to reduce the nitrate losses to our waters or we are in danger of losing our excellent coastal water quality. Ireland's Nitrates Action Programme is designed to prevent pollution of surface waters and groundwater from agricultural sources and to protect and improve water quality.

8 https://www.catchments.ie/assessment-of-the-catchments-that-need-reductions-in-nitrogen-concentrations-to-achieve-water-quality-objectives/

The review currently underway of the Nitrates Action Programme must deliver reductions in nitrate losses to our waters, and there needs to be full implementation of existing regulations by the Local Authorities and the Department of Agriculture Food and Marine. Full implementation of the climate measures identified in the Climatise Roadmap[9] and AgriFood 2030[10] strategy offer significant potential to deliver water quality and biodiversity improvements, but measures must be targeted in the right place.

Our health and wellbeing are inextricably linked to our environment. Water is needed to sustain life and is an important and integral part of our everyday existence. Clean, healthy water is essential to our health and well-being; providing our raw water for drinking and food preparation, and the location for our recreational activities such as swimming and angling. Clean water is essential for our economy; from tourism to agriculture and industry. Clean water is also essential for wildlife; our rivers, lakes, estuaries and coastal waters are home to thousands of plant and animal species ranging from tiny river insects to birds and animals such as kingfishers and otters, to name but a few.

The most prevalent human activities that impact on water quality are agriculture, hydromorphology (physical changes), forestry and urban waste water discharges. The next River Basin Management Plan is due to be published in 2022. It is essential that this plan delivers action and improvements across each of the main water quality pressures, builds on the progress made in the PAAs, and puts a particular focus on protecting water quality and preventing further declines in order to protect this precious resource.

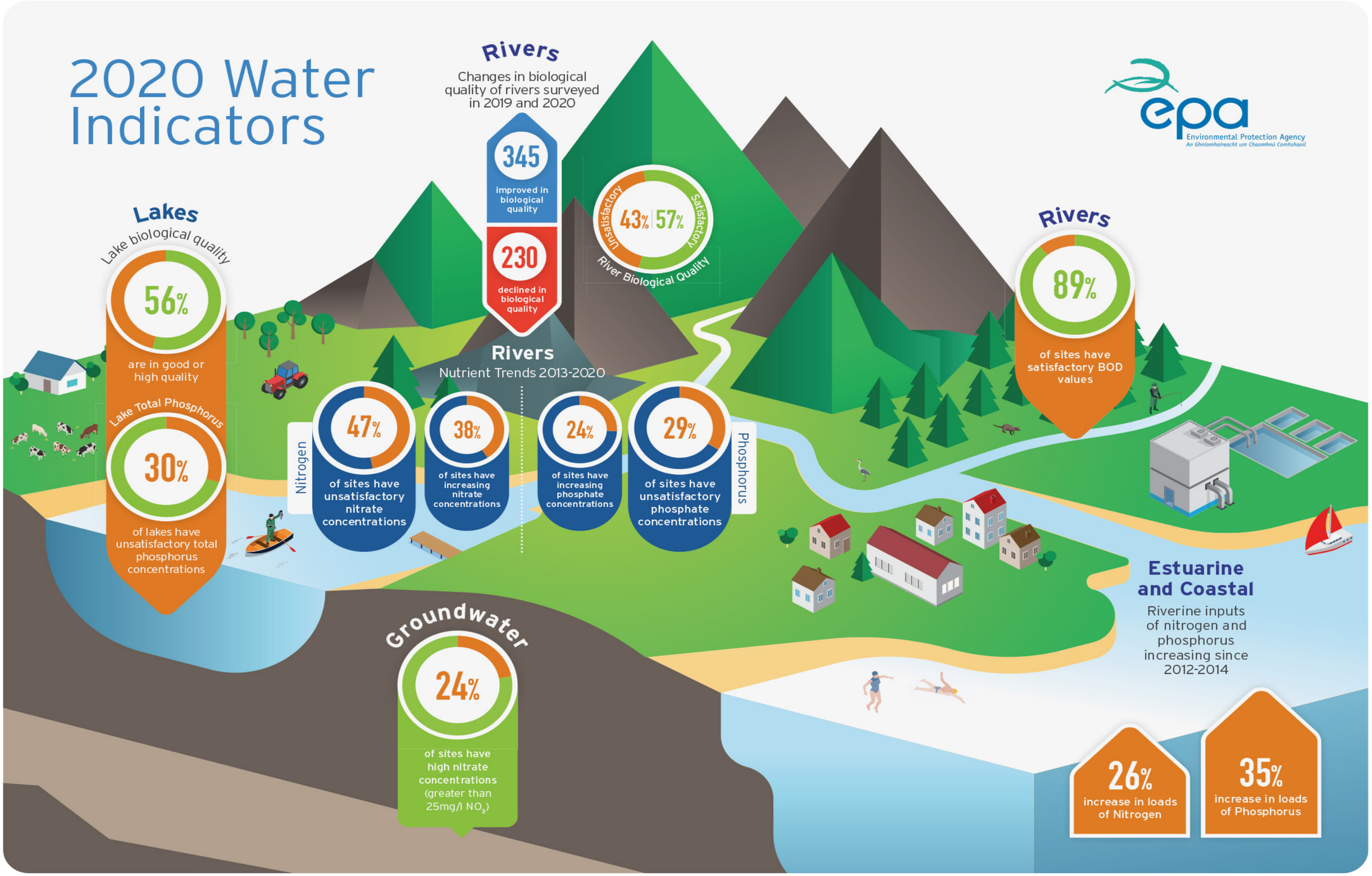
The WAB notes the concerns expressed by the Environmental Protection Agency that Ireland's water quality is currently under threat with nitrogen pollution from agriculture causing particular pressure in parts of the south, southeast and east of the country and that there is an urgent need to address nitrogen pollution so that the water quality in these areas can be protected and restored and failing to do so could mean further deteriorations in water quality in Ireland.

While progress is being made by Irish Water in reducing the number of waste water plants on the Environmental Protection Agency's priority action list, continued and sustained investment is needed to address water quality issues from urban waste water and to meet our Water Framework Directive objectives.

9 www.gov.ie/en/publication/07fbe-ag-climatise-a-roadmap-towards-climate-neutrality/

10 https://assets.gov.ie/132635/fcff0476-aa17-4e3f-962c-16baf7cbbffb.pdf

Water Advisory Body | Quarterly Report No. 3 of 2021



3.3 Incidents at Ballymore Eustace and Gorey Water Treatment Plants

Ballymore Eustace

Ballymore Eustace is the largest drinking water treatment plant in the country serving approximately 877,000 consumers across Kildare, Meath and Dublin City and County and producing approximately 310 Megalitres – 320 Megalitres of treated drinking water per day.

On 1 September 2021, Irish Water informed the Environmental Protection Agency of an alum dosing incident at the plant, which occurred on the 20 August 2021, 12 days earlier, but had only come to Irish Water's attention the previous day.

The Environmental Protection Agency, accompanied by representatives of the Health Service Executive, conducted an audit of the plant on the 9 September 2021 with the purpose of establishing the facts of the incident, the corrective actions taken following the incident and to verify the performance of Ballymore Eustace Water Treatment plant once corrective actions had been taken.

The root cause of the incident was a mechanical pump failure that took a number of hours to fix as well as an issue with the chlorine dosing system. The impacts were:

- the *Cryptosporidium* treatment barrier was compromised for up to 10 hours;
- there was ineffective disinfection of water when turbidity rose significantly[11];
- there was inadequate disinfection of water due to low chlorine levels in the final water for up to 6 hours; and
- there was a plug of inadequately treated water in the network for up to 4 days after the incident.

Gorey

The Gorey Creagh water treatment plant serves 7,241 consumers in Co. Wexford.

On the evening of Thursday 26 August 2021, Irish Water informed the Environmental Protection Agency of an incident where inadequately disinfected water went into supply from the Creagh Water Treatment plant over the period 19-24 August 2021, 7 days after the incident commenced.

The Environmental Protection Agency undertook a virtual audit of the Creagh Water Treatment Plant on 7 September 2021 and on-site audit on 16 September 2021 to establish the full facts of the incident, the corrective actions taken following the incident and to verify the performance of the Creagh Water Treatment plant once corrective actions had been taken.

11 Above 1 NTU – nephelometric telemetry unit

The root cause was a power failure on the evening of the 19 August 2021 which caused the chlorine pump to fail and compromised the disinfection system at the plant. In parallel, over the weekend of the 21 August 2021, there was heavy rainfall which resulted in a deterioration of the water quality of the River Bann which supplies the Creagh Water Treatment Plant. The impacts were:

- the *Cryptosporidium* treatment barrier was compromised for up to 5 days; and
- there was inadequate disinfection of water due to little or no chlorine in the final water for up to 5 days.

The Health Service Executive advised during both audits, that in late August and September many people in the locality became ill and were confirmed to have infections of Verotoxigenic Escherichia coli (a form of E.coli), Campylobacter, Cryptosporidium, Giardia, Shigella and rotavirus, with a number of people also hospitalised.

Common audit findings at both Ballymore Eustace and Gorey

Irish Water is the water supplier responsible for the provision of a safe and secure supply of drinking water. The audits identified Irish Water's failings in managerial oversight in delivering their role to supply safe and secure drinking water from Ballymore Eustace and Gorey. This was evidenced at the Local Authority level through failings in operational control and responsiveness. The common issues identified include:

- a basic lack of awareness and understanding amongst operational and management staff as to the significance of the incidents and their impact on the drinking water quality and risk to public health;
- a lack of awareness of the requirement to communicate and escalate such an incident to Irish Water preventing the opportunity to assess the need for a boil water notice and to protect public health;
- a lack of critical alarm settings to inform operators of deteriorating water quality;
- no documented alarm or incident response procedures; and
- no automatic shutdown of the plant in the event that critical alarms are activated.

The Environmental Protection Agency has published its audit reports on its website on 13 October 2021 and made a number of recommendations which Irish Water will need to address and respond to the Agency on. The Ballymore Eustace audit report can be found here[12]. The Gorey audit report can be found here[13].

12 https://www.epa.ie/publications/compliance--enforcement/drinking-water/audit-reports/dublin-city/ballymore-eustace-public-drinking-water-supply-.php

13 https://www.epa.ie/publications/compliance--enforcement/drinking-water/audit-reports/wexford/gorey-creagh-public-drinking-water-supply.php

Based on the significant findings of these audits, the Environmental Protection Agency instructed Irish Water to take a number of immediate actions to ensure that these risks are not prevalent across all drinking water plants and to assess the performance of those plants. These actions included:

- to audit all their plants, starting with the largest top 20 supplies by population, to ensure that staff were appropriately trained in incident awareness, response, reporting and escalation;
- To review critical alarm and shutdown settings to ensure public health is protected; and
- Engage with senior management in local authorities to highlight the failings of recent incidents and measures necessary to prevent these happening again.

The Environmental Protection Agency also wrote to the Department of Housing, Local Government and Heritage on 10 September 2021 to advise of its concerns in relation to incidents at the two drinking water treatment plants.

3.4 Major Projects

The WAB currently monitors two major Irish Water projects which are critical to overall water management.

Vartry Regional Water Supply Scheme

Aim: To provide a new treatment plant, upgrades to the Vartry reservoir and replacement of the Vartry tunnel to help to ensure a safe and sustainable water supply in north Wicklow and South Dublin.

Update: Irish Water is forecasting that this project is on track to be completed by 2021.

Leixlip Water Treatment Plant

Aim: To install and commission ultraviolet disinfection at the "old" plant at Leixlip to address deficiencies in treatment to ensure a safe water supply for Kildare, Dublin and Meath.

Update: Irish Water commissioned the ultrviolet disinfection at end Quarter 2 2021. The Environmental Protection Agency removed Leixlip from the Remedial Action List at the end of July 2021.

Part 4
WAB's Commentary on Key Performance Indicators and Conclusions

In Table 1 we summarise the WAB's comments on each metric which has been updated in this report.

Table 1
Summary of the WAB's comments on each metric

Number	Indicator	WAB Commentary
2.	First Fix Scheme	In 2015, Irish Water introduced the First Fix Scheme to tackle leakage on domestic customers' properties. Reducing drinking water loss through the First Fix Scheme helps to conserve water and can help to reduce the amount of money Irish Water spends on treating and supplying water that is ultimately leaked and not used by customers. In Quarter 2 2020, a total of 312 leak repairs were completed. 300 of these repairs were external to the customer property and were carried out by Irish Water, and the remaining 12 leaks were internal to the customer property and repaired by the customer. This shows a decline in the number of leak repairs completed since Quarter 1 2020 and demonstrates a continued and disappointing drop-off in the number of leak repairs completed under the scheme since mid- 2016. The WAB supports the earliest introduction of the Household Water Conservation (Excess Use Charges) Policy . The WAB anticipates that this will encourage customers to avail of the First Fix Free Scheme, which has been expanded to capture unmetered customers, and that these two measures together will lead to higher numbers of leak repairs in the future.

Number	Indicator	WAB Commentary
3.	Remedial Action List (Water)	At the end of Quarter 2 2021 the Remedial Action List contained 53 water supplies, which is an increase of five supplies since the end of Quarter 1. The most recent supplies removed from the Remedial Action List (Quarter 2 2021) were Leixlip and Liscarton while six supplies were added. The decrease in the population served by supplies on the Remedial Action List from Quarter 1 2021 to Quarter 2 2021 was 566,302 consumers which was mainly due to the removal of Leixlip from the Remedial Action List. The number of supplies on the Remedial Action List has increased for a second quarter and the Environmental Protection Agency is concerned by this development.
5.	Lead service connections replaced	At the end of Q2 2021, Irish Water had replaced 1,472 connections, which was ahead of the target for 2021, mainly due to more public side connections being replaced. Irish Water has assigned additional budget for lead replacements for the remainder of 2021. Under normal circumstances the WAB expects to see the continued replacement of lead services until the completion date of 2026.
8	Boil Water Notices	The WAB notes the majority of boil water notices over the last seven quarters are long term notices, which means they are in place for more than 30 days. This means that the solution to remove the boil water notice was not straightforward and involved significant structural investment by Irish Water. The WAB wishes to see boil water notices in place for as short a period of time as possible. The WAB also notes that the number of people affected by boil water notices at the end of Quarter 3, 2021 had increased on the previous quarter.

In this report four out of 11 metrics have been updated since WAB published its last report (WAB Quarterly Report No.2 of 2021).

It continues to be the WAB's view that the management and improvement of the drinking and waste water infrastructure and network requires significant and sustained action, across a range of areas.

It remains our view that increasing public confidence in Irish Water is dependent on visible action in areas such as waste water treatment, water quality, and leakage.

Glossary of Terms

Agglomeration – an agglomeration is an urban settlement (village, town or city area) which is connected through a pipe network to a wastewater treatment plant.

Chlorination – Water chlorination is the process of adding chlorine or chlorine compounds such as sodium hypochlorite to water. In particular, chlorination is used to prevent the spread of waterborne diseases.

Cryptosporidium – A disease-causing protozoon widely found in surface water sources.

E.Coli – Coliforms, specifically Escherichia coli (E. coli), are the universal indicator microorganisms of faecal contamination of water. These bacteria, which are of definite faecal origin (human and animal), are excreted in vast numbers and their presence in a water supply is proof that faecal contamination has occurred and is a definite indication that pathogens may be present.

Pathogen – Microorganisms that can cause disease in humans, other organisms or animals and plants. They may be bacteria, viruses, or protozoa and are found in sewage, in runoff from animals, farms or rural areas populated with domestic and/or wild animals, and in water.

Population Equivalent – in waste-water treatment the population equivalent is a reference that describes the specific load of a wastewater treatment plant.

Remuneration – Reward for employment in the form of pay, salary, or wage, including allowances, benefits (such as company car, medical plan, pension plan), bonuses, cash incentives, and monetary value of the noncash incentives.

Trihalomethanes – Trihalomethanes are a group of four chemicals formed, along with other disinfection by-products, when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water.

Trunk Mains – Trunk water supply pipelines deliver bulk water from one part of the system to another, often aided by pumping. As such, trunk mains are larger in diameter than reticulation mains, are not networked and have fluctuating pressures.

Turbidity – Turbidity is a measure of the degree to which the water loses its transparency due to the presence of suspended particulates. The more total suspended solids in the water, the murkier it seems and the higher the turbidity. Turbidity is considered as a good measure of the quality of water.

Web: www.wateradvisorybody.ie Email: info@wab.gov.ie