



Delivering what matters

# Drinking Water Quality Annual Report 2023

# 23

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# Introduction and Foreword



**I am pleased to present Northern Ireland Water's (NI Water) Annual Drinking Water Quality report covering the calendar year 2023, and I am delighted to report that we have continued to supply a very high quality of drinking water to our customers across all of Northern Ireland.**

NI Water's core function is to produce high quality drinking water in a cost-effective manner to meet the needs of all our customers, both existing and future. Being able to rely on and have confidence in the quality of water that we supply is a fundamental expectation of our customers.

Our overall drinking water quality compliance in the 2023 calendar year was 99.92%, above the Price Control 2021-2026 (PC21) target of 99.83%.

Around 40% of the drinking water in Northern Ireland is sourced from Lough Neagh. Sunlight combined with the presence of nutrients plus high temperatures resulted in unprecedented levels of algal growth in Lough Neagh over 2023. There is a complex range of pressures across multiple sectors impacting on the Lough's water quality.

Our water treatment works which rely on Lough Neagh, are designed with the potential for algae to be present and robust multi-barrier treatment, sampling, and monitoring processes are in place to give confidence in the water supplied to homes, schools, and businesses every day. Further information can be accessed at Lough Neagh Blue-Green Algae ([niwater.com/bga/](http://niwater.com/bga/))

NI Water is one of the largest landowners in Northern Ireland. Our catchments are often upland and dominated by peat and heathland. When functioning correctly, peat bogs provide multiple ecosystem services, including water quality improvement, flood mitigation, habitat, societal benefit, and carbon storage. In 2023/24, we completed a management plan for a further phase of peatland restoration work at Garron Plateau, which we aim to complete via an externally funded project in partnership with RSPB NI over the next three years.

Building on the legacy of INTERREG VA, a programme of work with a value of €1.14Bn, NI Water will continue to provide investment for the social, economic, and environmental development of Northern Ireland and the six border counties of Ireland to support peace, stability, and sustainable prosperity into the future. After the successes of the Source to Tap project and Cooperation Across Borders for Biodiversity (CABB), the NI Water Catchment Team have committed to partnerships in three PEACEPLUS funded projects in the coming years.

The water we supply for domestic use or food production must comply with UK national standards. We continue to engage with the Drinking Water Inspectorate for Northern Ireland (DWI) on potential changes to the Drinking Water Regulations in line with European standards, and have put in place a monitoring programme for potential new parameters.

Our capital investment programme to maintain and safeguard water quality for the reporting period is set out using the Northern Ireland council areas in Appendix 3.

As part of our reporting requirements, this report also incorporates data to meet the requirements of the Water Supply (Water Fittings) Regulations (NI) 2009.

We continue to exceed the targets placed upon us by our Regulators to comply with water quality standards, and will continue to improve the service to all our customers in the future despite working in challenging times.

**Sara Venning**  
Chief Executive Officer

# Drinking Water Quality

## Water Quality Standards

During 2023, Drinking Water Quality in Northern Ireland was assessed against standards set in the Water Supply (Water Quality) Regulations (Northern Ireland) 2017, herein after referred to as “the Regulations”.

The Regulations set out the requirements to be met by NI Water when supplying water for domestic or food production purposes and include:

- water quality standards for wholesomeness
- sampling locations for monitoring purposes
- minimum requirements for the number, frequency, and types of water samples to be taken at sampling locations
- water sample collection and testing regimes
- maintaining records of water sample results
- the provision and publication of information

NI Water assesses water quality standards against the parameters listed in Appendix 1. The standards in the Regulations are normally expressed as “Prescribed Concentrations or Values” (PCV) and are generally specified as maximum, minimum, percentile or average concentrations for a particular substance. Standards are set to ensure that water is wholesome, safe to drink, and aesthetically acceptable.

The Regulations set demanding standards for the quality of drinking water, but contraventions of these standards do not necessarily mean the water represents any public health risk. These contraventions are reported to the Drinking Water Inspectorate, investigated by NI Water, and prompt remedial action taken where appropriate to ensure that the drinking water is regulatory compliant.

The regulations require sampling programmes to be in place to ensure that water quality is monitored at: water treatment works (WTWs); service reservoirs (SRs), supply points, and consumers’ taps in water supply zones (WSZs). NI Water has a monitoring programme in place that covers raw waters, water at various treatment stages, drinking water in distribution and at the customer tap.

NI Water liaises with its customers on a wide variety of issues. Where the monitoring programme highlights a problem with the customer’s plumbing, NI Water informs the customer, the local Environmental Health Officer, and the Drinking Water Inspectorate.

To assist in understanding the contents of this report, a glossary of technical terms is provided (Appendix 6).



# Monitoring Drinking Water Quality

The Regulations necessitate a thorough and extensive water-sampling programme to be undertaken, to monitor water quality throughout the supply and distribution systems. The sampling locations and frequencies for the monitoring of drinking water quality are specified in the Regulations. These monitoring arrangements are audited by the Drinking Water Inspectorate. The mandatory sampling programme requires water samples to be collected regularly at water treatment works, at service reservoirs and water towers used to store treated water, and at customer taps in the water supply zones. In addition to the regulatory sampling frequency requirement, NI Water also carries out operational sampling and analyses to monitor and optimise the processes and quality of our drinking water supplies.

Under the Regulations, samples to be analysed for parameters that do not change in the supply water main, may be collected from Authorised Supply Points. These samples are collected from the final distribution point of the Water Treatment Works, and are considered under the Regulations to be equivalent to samples collected from the customer tap. All samples are carefully collected, handled, and transported to ensure that they accurately represent the water quality that customers receive. NI Water uses trained, skilled, and experienced sampling staff for the collection and delivery of the regulatory samples to the laboratories. In addition to this, the sampling for regulatory samples is accredited to meet the requirements of ISO 17025. UKAS auditors carry out an annual audit of the sampling providers' quality system to ensure maintenance of accreditation for sampling. All sampling staff wear uniforms and carry identity cards when they call upon customers to take a sample.

Samples collected from customer taps are taken at random addresses in each water supply zone.

A water supply zone, under the requirements of the Regulations, is a designated area with a population of no more than 100,000 supplied with water from one water treatment works or blended water from several works. The number and boundaries of water supply zones are subject to change according to operational requirements as supply sources to areas are adjusted to meet demand and infrastructure developments. On this basis, 59 water supply zones were monitored during the period of this report.

The parameters for which samples are tested include:

- microbiological, e.g. Coliform bacteria
- physical, e.g. pH (Hydrogen ion)
- chemical, e.g. Iron, Manganese, Lead and Nitrate
- aesthetic, e.g. Colour

Compliance with the drinking water standards is determined by comparing the results of laboratory analysis of water samples with the relevant Prescribed Concentrations or Values (PCV). Where monitoring indicates that a standard has not been met, appropriate immediate investigation and remedial action is undertaken to ensure that the water supply does not present any public health risk. Sampling programmes are adjusted, and increased testing may be scheduled in the water supply zone for the parameter involved. NI Water will liaise at all times with the DWI and the Public Health Agency to ensure customer safety.

NI Water reports its water quality compliance levels as Overall Percentage Compliance. This assesses all regulatory consented parameters at water treatment works, service reservoirs, as well as customer tap. This is a holistic approach and is supported by the Drinking Water Inspectorate and the Utility Regulator.

## Drinking Water Quality Summary – Year on Year

Compliance assessed against the “Water Supply (Water Quality) Regulations (Northern Ireland) 2017”

Compliance Measure	2018	2019	2020	2021	2022	2023
% Overall compliance with drinking water regulations	99.90%	99.90%	99.94%	99.88%	99.91%	99.92%
% Compliance at customer tap (including supply points)	99.83%	99.84%	99.91%	99.82%	99.88%	99.88%
% Iron compliance at customer tap	98.94%	98.89%	99.56%	99.35%	99.15%	99.71%
% Service Reservoirs with coliforms in >5% samples	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

# Protecting Our Customers

## Drinking Water and Health

The safety of drinking water is paramount to public health. It is a tribute to the skills and expertise of colleagues working for drinking water providers, regulators, health authorities, and local authorities that the safety of drinking water in Northern Ireland is something that the public is able to take for granted.

The Drinking Water and Health Liaison Group (DW&HLG) is a multi-agency group that considers public health issues associated with the drinking water supply. The Group, which is unique in the UK context, draws its membership from the main stakeholder organisations including the Department of Health, the Public Health Agency, the Drinking Water Inspectorate, the Northern Ireland Public Health Laboratory, the Environmental Health Northern Ireland, and NI Water.

The Group produced a comprehensive guidance document on “Drinking Water and Health” aimed at professionals from a variety of backgrounds who share an interest and involvement in the safety of drinking water. The purpose of this joint guidance is to set out the roles and responsibilities of the key players, to describe the wider context to the provision of safe drinking water, to detail the arrangements and protocols in place to monitor compliance with standards and to respond to an emergency or incident situation.

This guidance is a “living document” that is regularly reviewed and updated.

The guidance document can be found at: <https://www.niwater.com/drinking-water-guidance/>



# Protecting Our Customers

## Lead Pipework Replacement Programme

The NI Water lead strategy sets out NI Water's approach to the management and compliance with the regulatory standard of lead in drinking water.

The strategy details how NI Water will work to reduce the likelihood of lead failures at customers' taps whilst working within its current remit. The overall approach is a combination of two strands, as summarised below:

- Removal of NI Water owned lead pipe assets from the water distribution system.
- Encourage the removal of customer owned lead pipe assets such as their service pipes.

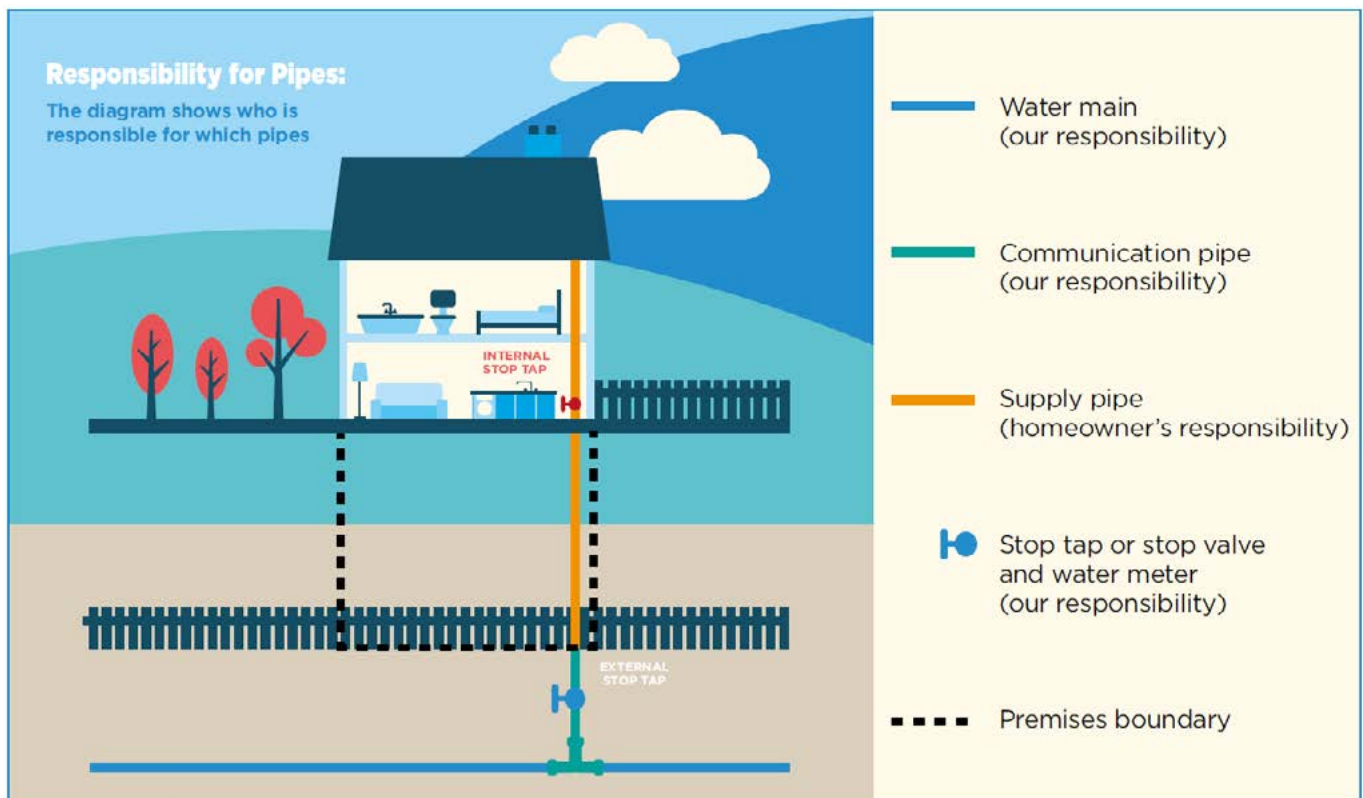
NI Water has been carrying out lead pipe replacements, of NI Water owned communication pipes, for a number of years under the following programmes of work:

- Proactive Lead Pipe Replacement – Proactively replacing lead communications pipes only, where the water main is in good condition, and is not being replaced.

- Opportunistic Lead Pipe Replacement – Replacement of lead communication pipes as part of Watermains Rehabilitation programme.
- Customer Requested Lead Pipe Replacement – Replacing lead communications pipes when a customer requests NI Water to replace lead pipework to their property when they have replaced lead pipe internally in their property.
- Water Quality Sample Failures – Replacement of lead communication pipes identified through the random lead sampling program and customer request samples, where there has been a contravention of the lead in drinking water standard.

In the PC21 price control period so far, NI Water has replaced nearly 5,900 lead service pipes and is on track to meet its target of 11,064 for the period. The PC21 programme of replacement has been developed to ensure that NI Water prioritises and targets areas with high numbers of lead pipes and poor compliance with the lead standard.

A leaflet on Lead in Drinking Water is available from the NI Water website at [www.niwater.com/about-your-water](http://www.niwater.com/about-your-water)



# Source to Tap

## Drinking Water Safety Plans

A Drinking Water Safety Plan (DWSP) is the most effective way of ensuring that a water supply is safe for human consumption and that it meets the health-based standards and other regulatory requirements. It is based on a comprehensive risk assessment and risk management approach to all the steps in a water supply chain from catchment to customer – the Source to Tap approach.

The primary objectives of a DWSP in protecting human health and ensuring good water supply practice are the minimisation of contamination of source waters and effective treatment using appropriate processes. DWSPs are used to map water supply systems, identify the hazards at each stage of the system from catchment, through treatment and the distribution system, to the customer’s tap, and to assess and control the risks that these hazards pose.

The Water Industry has adopted the DWSP approach to risk management from the raw water source, through water treatment, distribution and to our customer’s taps. NI Water has put in place DWSPs for all of our drinking water supply systems to identify hazards, assess risks which could potentially threaten each stage of the water supply process, and implement mitigation measures to control the risk to ensure that the quality of the drinking water supplied meets

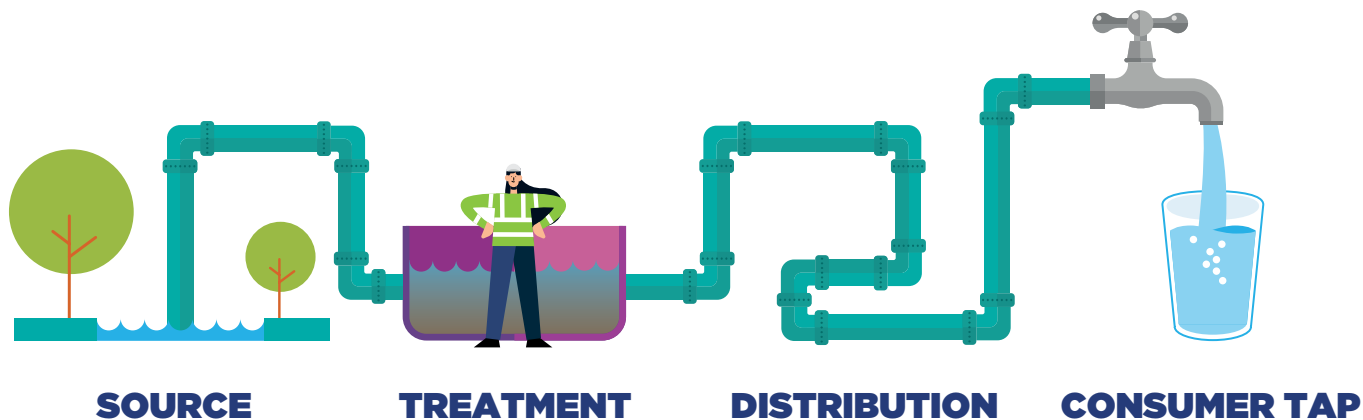
regulatory requirements and protection of public health.

The risk assessments are kept under review, to ensure risks are adequately controlled and also that any new or emerging risks are identified and assessed. They are reviewed using a risk-based approach at on a minimum of an annual frequency. In the long term, DWSPs will lead to improved security of supply, a reduction in regulatory failures, incidents, and customer complaints and hence increased customer confidence.

NI Water works with a number of partners such as the Northern Ireland Environment Agency (NIEA), Forestry Service, CAFRE and a number of other Non-Government Organisations to protect the raw water sources from contamination. Protection of the raw water is the first step in the multibarrier approach to drinking water treatment and therefore the first stage in the DWSP approach to management of drinking water quality.

The outputs of these plans – “The Drinking Water Safety Plans” themselves continue to be embedded into company policies and procedures.

NI Water uses the DWSP risk assessments to help inform the investment strategy for drinking water.





# SCaMPNI Sustainable Catchment Management Programme

Sustainable catchment management is about improving the quality of the raw (untreated) water in our drinking water catchments using nature-based and sustainable solutions in the catchment prior to treatment, so that we can save resources, protect, and enhance habitats, and extend the life of our water treatment assets. It is an integral part of our DWSP approach for the management of our drinking water quality – from Source to Tap.

Our team work to develop and implement on-the-ground catchment interventions with the help of a wide range of partners, from Ulster Wildlife to the Mourne Heritage Trust, to reduce run off and pollution getting to the waterways we use to provide our customers with drinking water.

## Our Peatlands

A number of our upland reservoirs are on areas of peat and also contain or are adjacent to commercial conifer plantations. The water in these reservoirs is often at risk of colour and turbidity fluctuations following erosion from weather, grazing pressures, habitat degradation and forestry operations.

Over the past decade, NI Water has carried out several peatland restoration projects, at Garron Plateau in conjunction with the Royal Society for the Protection of Birds Northern Ireland (RSPBNI) and taking learning from the INTERREG-funded Source to Tap project, at Lough Bradan outside Drumquin in Co. Tyrone. While these project phases are complete, peatland restoration is long-term, and the Catchment Team are pleased to be able to continue further restoration at some of these sites.

The Garron Plateau is not only designated with multiple protections for important habitats (blanket bog) and priority species (Hen Harrier) but is also an important drinking water source for Broughshane and the surrounding area. The INTERREG-funded Cooperation Across Borders for Biodiversity (CABB) project between 2014 and 2019 which restored over 500 hectares of blanket bog through raising the water table in area. It not only helped to reduce raw water turbidity but has also helped to improve the blanket bog condition to encourage peat formation, bog species to recolonise and important breeding bird species to return.

The next phase of peatland restoration on our landholding at Garron will be carried out with the help of PEACE PLUS funding and a number of important delivery partners, and will hope to improve the raw water quality and habitat even further. Peatland restoration and encouraging damaged habitat to restore back towards pristine condition can also help achieve our corporate net zero targets, contribute to the national net zero targets, and increase biodiversity on our most valuable habitats.

Garron Plateau phase 2 restoration is the first project in Northern Ireland to be validated and registered under the IUCN Peatland Code, is a voluntary standard for UK peatland projects wishing to market the climate benefit of restoration and is an example of Natural Capital financing. This registration will allow NI Water to claim carbon insetting as an additional benefit of this excellent project.



Photo of Lough Bradan 2023.

## Pesticides

Pesticides are essential for weed control and land management in the agricultural and amenity sectors. However, some grassland herbicides like MCPA (which is used mostly to control rushes) make it into watercourses that are abstracted for drinking water in Northern Ireland and are difficult and expensive to remove during treatment. An extra water treatment mechanism is required to remove MCPA, increasing the cost for drinking water treatment to ensure that the water supplied to our customers meets the requirements of the drinking water regulations for pesticides in drinking water. Pesticides can often make their way into watercourses if they are washed off the land during wet weather conditions, after a spillage or if they are applied incorrectly.

The SCaMPNI team are members of the Water Catchment Partnership, a multi-agency group who work to reduce the concentration of pesticides in the raw water through outreach and education.

To reinforce best practice use of pesticides in the agricultural sector, the SCaMPNI team have attended a number of farm Business Development Groups with farmers across the country as well as working alongside CAFRE in running rush control events for farmers. These events are a way for us to meet pesticide users and discuss how we can reduce run-off and pesticide wastage together.

We have also completed two Farm Chemical Disposal Schemes in the Carmoney and Ballinrees catchments, helping the agricultural community with a 100% free farm-to-farm collection of unwanted, out of date or unlicensed farm chemicals and pesticides. Removing these chemicals from the catchment reduces risk of accidental pollution events and helps farmers keep their stores tidy and up to date.



Photo of boom sprayer Co. Antrim.

## The Mournes

NI Water owns over 3,000 hectares of land in the Mourne Mountains, where we abstract water from Silent Valley, Spelga and Fofanny reservoirs to provide drinking water for nearly one fifth of the population of Northern Ireland.

We encounter many challenges and pressures in these catchment areas from peatland erosion, path maintenance, wildfires, recreation, and grazing pressures. Working together with a large range of partners, our team help to manage these treats and pressures to our mutual benefit and for the benefit of the general public, local people, the local economy and our tenant graziers.

The Mourne Heritage Trust help us by maintaining eroded paths, managing grazing regimes, access points, fencing, signage and surveying invasive species on our behalf. We have also contributed to their completion of the Eastern Mournes SAC Conservation Action Plan which sets out actions for stakeholders to protect and enhance the mosaic of habitats which again can contribute to cleaner raw water.

We work with the National Trust, Mourne Heritage Trust, and the Woodland Trust as a core partner of the Forever Mournes partnership. Together as a coalition of the willing, we work together to deliver the Mournes Community Renewal Through Nature Project which has produced several scoping studies and pieces of research to inform development of more comprehensive and coherent management approaches in the area.

We continue to develop the High Mournes Management Plan which aims to manage our land long term in a better way for all of us to continue providing wholesome drinking water, while protecting the environment, meeting the needs of our grazing tenants and our visitors, upholding and improving our designated lands and preventing wildfires.

This spring marked the first anniversary of the Mourne Conservation Graziers being in place to manage our Silent Valley catchment with an intensive conservation grazing regime. The Silent Valley is now designated as a commonage.

This regime aims to improve the condition of the sensitive upland habitat mosaics present in our Mourne catchments, through targeted grazing and the control of invasive and overgrown vegetation to slow down and eventually prevent vegetation loss and erosion and to reduce wildfire risk through reduction in fuel load.

The successes of the first year of this new arrangement ably assisted by the Mourne Heritage Trust, DAERA and the National Trust has set a precedent for future catchment management through conservation grazing regimes.



Photo of Silent Valley 2022.

## Biodiversity

NI Water are proud partners of the All Ireland Pollinator Plan. In 2020 we made a commitment to do what we can as a major landowner in Northern Ireland to protect pollinators (including bees) in areas on our landholding.

We own a great number of outdoor assets which already act as great homes and food larders for pollinators. In 2023 with help of some brilliant NI Water staff volunteers, we were able to map 22 of our sites as pollinator areas. We are continuing this work in 2024 hoping to map many more areas for pollinators and contributing to at least two other national pollinator-associated citizen science projects at the same time.



Picture courtesy of Ciaran Crozier NIW.

## Peace Plus

Building on the legacy of INTERREG VA, PEACEPLUS, a funding programme with a value of €1.14Bn, will continue to provide investment for the social, economic, and environmental development of Northern Ireland and the six border counties of Ireland to support peace, stability, and sustainable prosperity into the future. After the successes of the Source to Tap project and Cooperation Across Borders for Biodiversity (CABB), the NI Water Catchment Team have committed to partnerships in three PEACEPLUS funded projects in the coming years.

Under Investment Area 5.3 'Promoting sustainable water management', NI Water are lead partner along with Uisce Éireann (Irish Water) and five other partners (Agri-Food and Biosciences Institute (AFBI), Ulster Wildlife, James Hutton Institute, Ulster University, The Rivers Trust) in a multifaceted cross-border catchment management project in the Strule and Fane catchments. This aims to pilot nature-based solutions to ultimately deliver a jointly developed solution which contributes to improved water quality and which can be taken up by others in the future. Significant preparatory work is being undertaken currently and if successful the project would start at the end of 2024/start of 2025.

Under Investment Area 5.1 'Enhancing nature protection and biodiversity and reduce pollution', NI Water are joint and associate partners on two cross-border habitat improvement programmes along with the RSPBNI, Ulster Wildlife, the Mourne Heritage Trust, and other stakeholders to improve habitat conditions in some of our drinking water catchments in designated areas. These projects work will begin in 2025.

# Environmental Management System (EMS) and ISO14001

In carrying out our core business NI Water contributes to and relies upon the quality of the natural environment, and we strive to protect it by working in an environmentally responsible manner, demonstrating high standards of environmental care and operational performance. NI Water works toward a 'Zero Harm' ambition, which includes avoiding harm to our environment.

NI Water is proud of its achieved maintenance of and compliance with the international standard ISO14001 for our Environmental Management System (EMS). The continual improvement and hard work of our functional staff and business areas, ensures NI Water maintains a strong environmental focus and management of compliance as evidenced through its testing our internal audit plan, and by frequent independent external auditors. Our accreditation to the ISO standard has been managed and maintained since 2003. Our CEO, Board, and Executive Committee support and approve NI Water's Environmental Statement and continued commitment to protecting, preserving, and improving our natural environment.

NI Water's EMS has become an integral part of our daily activities and business processes.



# Water Mains Rehabilitation

NI Water is a customer focused but asset-based organisation. In order to deliver the maximum level of customer service at the lowest sustainable cost, it is important that NI Water assigns expenditure in the most effective possible manner.

The Water Mains Rehabilitation Programme for Northern Ireland was established in 1999 to ensure the investment in water mains infrastructure was appropriately targeted at those areas of greatest need to ensure delivery of a reliable supply of compliant quality water to the people of Northern Ireland and comply with the relevant statutory and regulatory standards.

For the PC15 planning period and, in preparation for the PC21 business plan (covering 2021 – 2027), NI Water revised its approach to identifying Water mains investment needs. In consultation with external stakeholders such as the Drinking Water Inspectorate, the Utility Regulator, and the Consumer Council Northern Ireland, NI Water developed the Water mains Infrastructure Investment Model (WIIM). Building on the basis of the previous Zonal Studies approach, which utilised the analysis of structural and water quality issues, the revised approach draws on corporate data, focusing on customer contacts and customer preferences as well as structural and water quality issues when identifying and prioritising investment needs.

The Water Mains Rehabilitation programme delivered 832km during the PC15 period and the target for the PC21 period is 838km of which 352km have been laid to date.

Further consultation will be needed between NI Water and the Utility Regulator to ascertain the impact upon the organisation due to the recent budgetary restrictions.

NI Water Customer targets, for drinking water compliance, are set to assist the company in improving the customer experience as well as to facilitate improvement in Regulatory compliance with lead, iron, and turbidity. The current aim, of improving both the customer experience and Regulatory compliance, in relation to these three parameters, lies with replacement / refurbishment of the drinking water distribution system. The intervention methodology will be reviewed again before the PC27 plan period, with interventions to be considered such as planned area flushing and monitoring and mains conditioning.

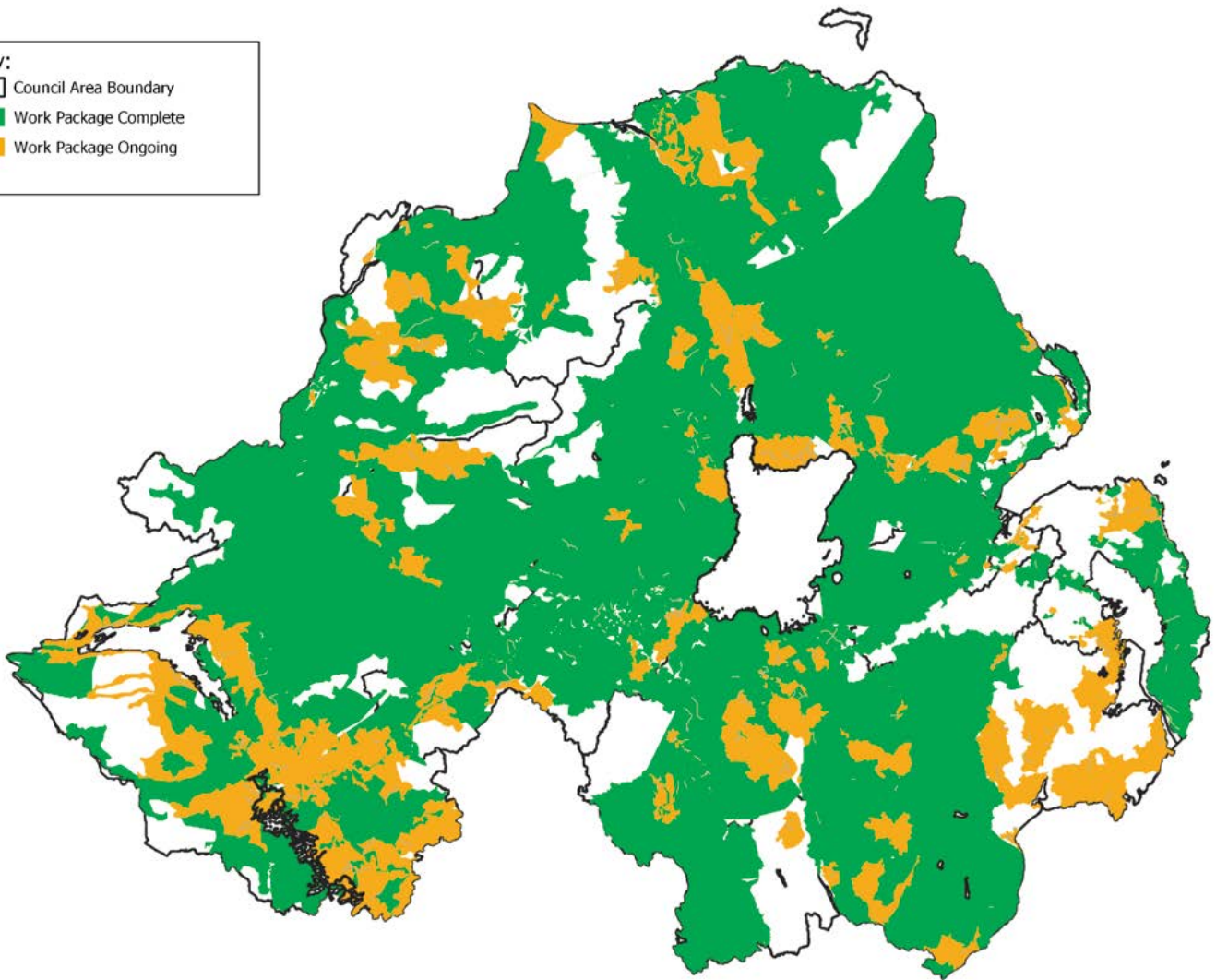
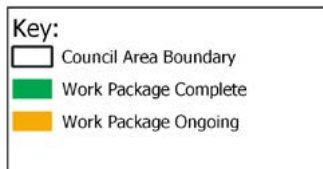


# Water Mains Rehabilitation

## Current Work Package Status

### Water Rehabilitation Framework.

PC15/21 Work Package and Scheme Status  
May 2024



The map above shows the extent of the current Water Mains Rehabilitation Framework covering most of Northern Ireland. To assist clarity, whilst the council boundaries are shown, the individual councils are not named. Regions in white on the map are largely watercourses or upland areas that do not receive public water supply.

# Sufficiency of Supply

Approximately 919,200 domestic, agricultural, commercial, and business properties in Northern Ireland are connected to the public water supply – this equates to around 99.9% of the total population. This entailed supplying an average of about 606.5million litres of high-quality drinking water to customers every day during 2023/24. For this, NI Water utilised 39 sources that include upland Impounding Reservoirs, Boreholes, Rivers, and Loughs.

NI Water has a legislative requirement to produce a Water Resource Management Plan and a Drought Plan as part of its forward planning process. The Water & Sewerage Services Act (Northern Ireland) 2016 permitted NI Water to combine these two plans into the Water Resource and Supply Resilience Plan (WR & SR Plan). The next iteration of the WR & SR Plan is currently at draft stage and has been issued for consultation.

The Plan is an important document for NI Water, as it shows how the company will manage and develop water resources to make sure there is enough water to meet future supply needs.

The Plan takes into account changes in population, housing, water usage and incorporates any predicted changes to our climate. This includes how water supplies would be maintained during critical periods such as severe winters, drought and also includes a drought plan.

NI Water has made significant changes in how the plan was developed from the previous version which was launched in 2020.

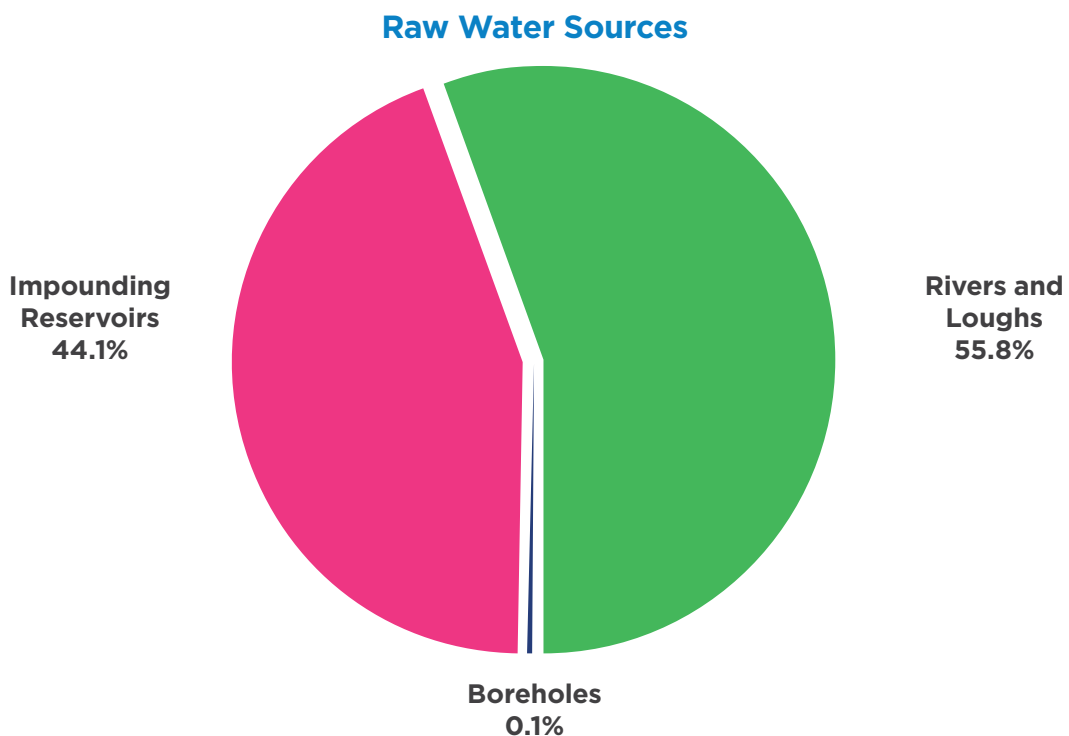
These include:

- A longer-term planning horizon from 25 to 50 years
- Changing future weather patterns require increased resilience to more frequent and extreme events e.g. this includes planning for more extreme drought events, typically what would be expected to occur once every 200 years
- Increased focus on environmental sustainability in support of carbon Net Zero targets

Following the consultation period, once all the representations have been reviewed and addressed as appropriate, NI Water will publish a summary of the consultation responses and the final WR & SR Plan.

It is anticipated the final plan will be published by September 2024.

For the period of this report, water supplies in Northern Ireland were obtained from three types of sources, as shown below:



# Drinking Water Inspectorate - Technical Audit

The Drinking Water Inspectorate (DWI), a unit within the Northern Ireland Environment Agency, has an independent responsibility to audit drinking water quality compliance against the standards set in the Regulations.

Each year DWI undertakes a technical audit of the measures taken by NI Water to comply with the Regulations. The technical audit process includes:

- The transfer, to DWI, of analytical results of samples taken throughout the year, from water treatment works, service reservoirs, and customer taps
- A compliance assessment of this information against the regulatory standards
- Carrying out an inspection programme which examines the sampling, analytical, reporting, water treatment, distribution policies, and relevant procedures

In 2023, three audits were completed:

- An audit of Dungonnell WTW
- An audit of Drinking Water Safety Plans (Blue/Green Algae Risk)
- An audit of the Laboratory Information Management System (LIMS)

DWI made a number of recommendations and suggestions, and NI Water has followed up on these issues. DWI will report on these inspections and the quality of water supplied by NI Water in its annual report, due to be published later in the year.

DWI is located at Lisburn NIEA, 17 Antrim Road, Lisburn BT28 3AL.

## Water Quality Events

NI Water is required under the Drinking Water Regulations to notify the DWI whenever an event occurs that has affected, or has the potential to impact on drinking water quality or sufficiency of supply, and subsequently where there may be a risk to consumers' health. Each event is assessed by the DWI into one of five categories based on increasing severity: Not Significant, Minor, Significant, Serious or Major. NI Water fully investigates all events and provides the DWI with a substantive report for each. After investigation the event may be shown not to have had a detrimental effect on water quality and is classified in the "Drinking Water Inspectorate's Report" as "Not Significant" or "Minor" as opposed to "Significant", "Serious" or "Major".

A list of all Water Quality Events which were "Significant", or above which occurred during 2023 is detailed in Appendix 4.

## Regulatory Enforcement

During 2023, four Regulation 31(4) Notices were ongoing:

- Regulation 31(4) Notice 2020/001 required NI Water to install and have operational, a treatment system at Derg WTW that is effective in the removal or reduction of MCPA to achieve a final water result that meets the maximum regulatory limit of MCPA of 0.10 µg/l by 31 March 2022. This was amended on 9 February 2022 to provide an additional 12 months to complete the required treatment upgrade, by 31 March 2023. DWI issued a Revocation Notice on 22 January 2024 following evidence provided by NI Water that demonstrated that the new treatment process met the requirements of the Notice.
- Regulation 31(4) Notice 2020/002 requires NI Water to install and have operational, a treatment system at Ballinrees WTW that is effective in the removal or reduction of MCPA to achieve a final water result that meets the maximum regulatory limit of MCPA of 0.10 µg/l by 22 December 2023. This was issued on 17 December 2020. This was amended on 18 December 2023 to provide an additional 12 months to complete the required treatment upgrade by 20 December 2024.
- Regulation 31(4) Notice 2020/003 requires NI Water to install and have operational, a treatment system at Ballinrees WTW that is proven to be effective in the treatment of taste and odour parameters to achieve a final water and consumer tap result that is acceptable to the consumer and there is no abnormal change by 22 December 2023. This was issued on 17 December 2020. This was amended on 18 December 2023 to provide an additional 12 months to complete the required treatment upgrade by 20 December 2024.
- Regulation 31(4) Notice 2021/001 requires NI Water to install and have operational, a treatment system at Drumaroad WTW that is proven to be effective in the removal or reduction of Aluminium to achieve a final water result that meets the maximum regulatory limit of Aluminium of 200 µg/l by 30 April 2025. This was issued on 8 July 2021.



# Quality Assurance

The Regulations require water quality to be monitored using analytical systems, which can demonstrate that appropriate accuracy is achieved and maintained. NI Water attaches great importance to the integrity of the analysis and for this reason applies strict laboratory analytical quality control procedures. These systems and procedures are subject to external inspection and audit by the Drinking Water Inspectorate and an assessment of NI Water's performance is included in the Inspectorate's annual report.

NI Water has achieved the requirements of the Drinking Water Testing Specification (DWTS). This is a national scheme agreed between the Drinking Water Inspectorate and the United Kingdom Accreditation Service for quality assurance within laboratories carrying out analysis for the water industry.

In addition to this, both of NI Water's testing laboratories have attained the necessary standard of analytical excellence to the requirements of ISO 17025. UKAS auditors carry out an annual audit of the NI Water laboratories' quality system to maintain this.

NI Water laboratories provide an accredited analytical service to external customers for both drinking water quality testing and wastewater quality testing.

## Use of Technology for Increased Assurance

To assist in its ability to audit its sampling programme, NI Water has put in place an electronic system to produce an enhanced audit trail and eliminate errors in data transcription.

The system uses android phones with a bespoke Remote Sampler app. The phone camera is used to scan the labels on the sample bottles and the built in GPS (Global Positioning System) is used to give an accurate sample audit, location fix, and time for each sample as it is collected. When the sampler returns to the laboratory, this data is downloaded with all the ancillary audit data onto NI Water's Laboratory Information Management System (LIMS) where it updates the existing sample information. This system has recently been upgraded to a cloud-based system to automate the audit trail and chain of custody more fully.

Within the laboratory environment, the majority of analytical results are transferred directly into LIMS via direct data capture from the laboratory instrumentation. This information transference minimises the possibility of transcription errors and again gives an enhanced audit trail.



# Water Quality Summary

## NI Water Sites in Service

During 2023, the numbers of NI Water sites in service were:

Site Type	Number in Service
Water Treatment Works	25
Service Reservoirs	287
Water Supply Zones	59
Authorised Supply Points (see glossary)	25

## Overall Water Quality Testing

During 2023, 100,231 microbiological, physical, and chemical tests were carried out for mandatory, and indicator consented parameters on water samples taken from water treatment works, service reservoirs and customer taps. Of these, 100,150 tests complied with the regulatory standards giving an overall percentage compliance of 99.92%.

Location Type	No of Samples	Regulatory Parameters Analysed	Regulatory Parameters used for Compliance Assessment
Water Treatment Works	6,294	44,301	19,125
Service Reservoir	14,795	88,770	29,590
Zone (including Authorised Supply Point)	5,568	67,184	51,516
<b>Overall</b>	<b>26,657</b>	<b>200,255</b>	<b>100,231</b>

As well as the regulatory required analyses, NI Water also carries out a large number of operational process control determinations, to ensure that its treatment processes are fully optimised.

# Water Quality Summary

## Microbiological Quality

Effective disinfection is fundamental to the treatment process. For effective disinfection the water the Regulations require that the water prior to disinfection must be treated to ensure that the turbidity of the water does not exceed 1 NTU. Water leaving water treatment works is disinfected with chlorine to safeguard public health by destroying microorganisms. This is the most important part of the water treatment process. NI Water has developed a disinfection policy for water treatment and individual disinfection statements for each water treatment works. This will continue to ensure that all water supplied by NI Water is adequately disinfected, and water supplied to customers is safe and pathogen free.

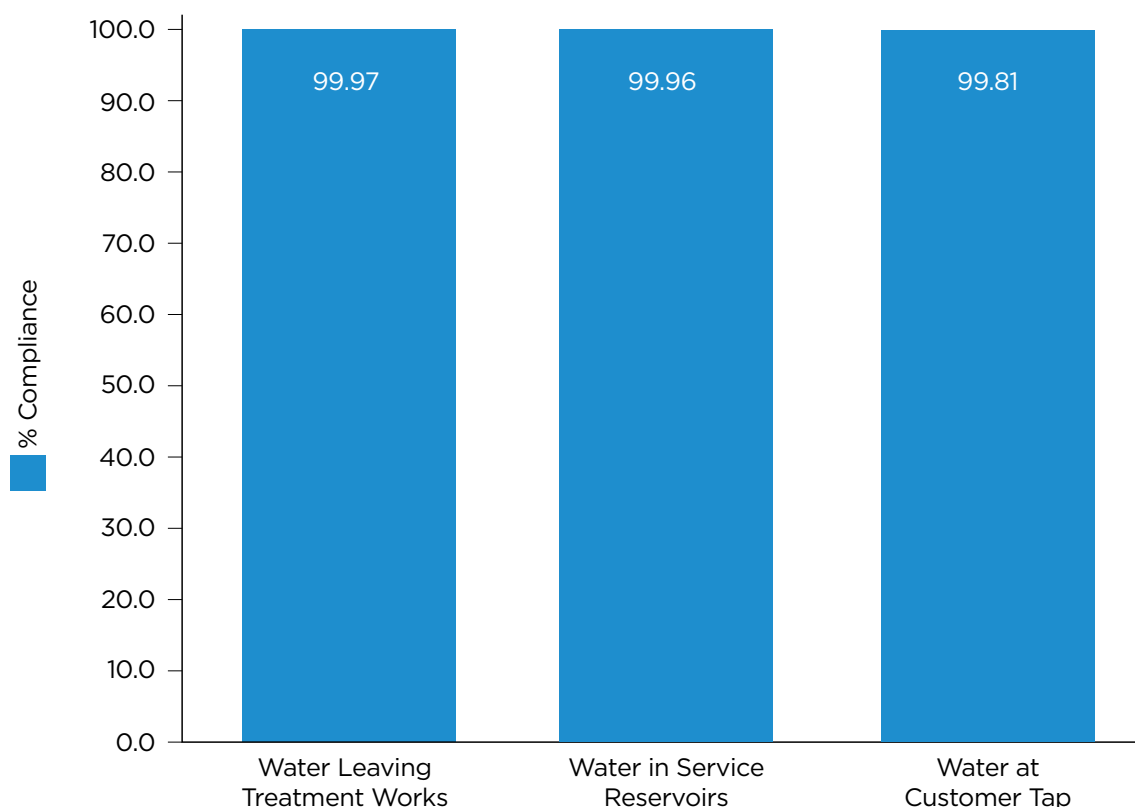
To ensure the effectiveness of the treatment and chlorination process, the wholesomeness of treated water is regularly examined to ensure the absence of coliform bacteria and faecal coliforms (E. coli) at water treatment works, service reservoirs and in the distribution system at customer taps.

The presence of these organisms may indicate potential microbiological contamination of water supplies, and if they are detected in drinking water, immediate action is taken to identify the source and to minimise any risk to public health.

Many instances of microbiological failure in samples taken from customer taps are due to contamination of the tap itself, in particular with mixer type kitchen taps. For this reason if a positive result is obtained, investigations are immediately carried out to identify if the positive result is due to the specific tap or the general system. If the contamination is found to be due to the tap or internal plumbing, NI Water will inform the customer in writing of the reason for the failure so that they can take appropriate action. A copy of the letter is also provided to the Public Health Agency, the local Environmental Health Officer, and the DWI.

A summary of the microbiological quality of water supplied in 2023 is given below.

## Overall Microbiological Water Quality



# Water Quality Summary

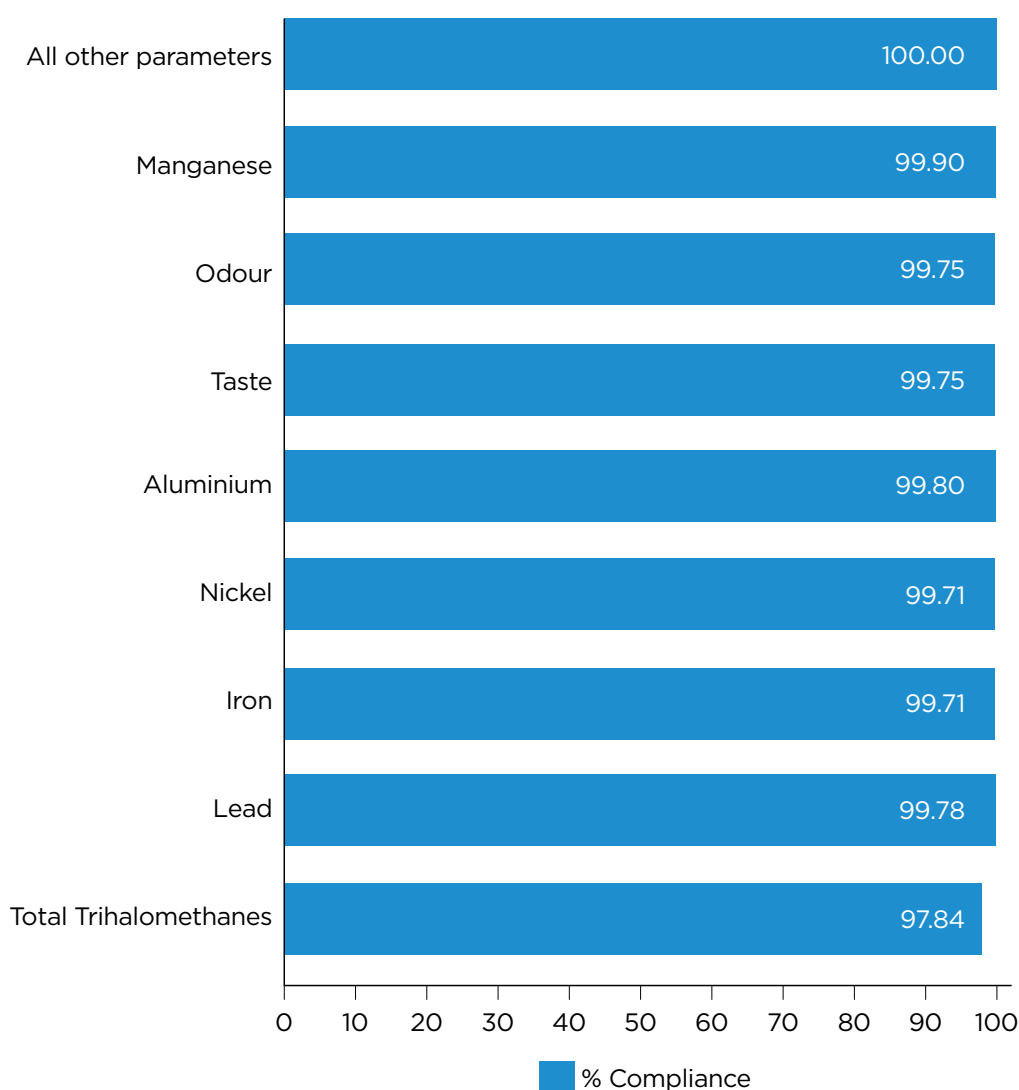
## Physical and Chemical Quality at Customer tap

Physical and chemical quality standards apply to water supplied at customer taps. The Regulations lay down the required sampling frequency for each parameter or group of parameters dependent on the resident population of the water supply zones.

- During 2023, 39,672 physical and chemical tests were assessed against their consent for water samples taken at customer taps or authorised supply points. Of these, 39,633 tests complied with the regulatory standards giving a compliance of 99.90% for physical and chemical tests.

Appendix 2 shows the extent of NI Water's compliance with the regulatory standards at both customer tap and authorised supply point. For most parameters, compliance is judged based on the results of individual samples. If a single sample exceeds the PCV, that supply is deemed not to comply with the regulatory standards, even if the cause is outside NI Water's control, e.g. defective plumbing within premises. Improved compliance will be achieved through the water treatment works investment programme and thereafter through improvements to the water storage and distribution system.

### Percentage Compliance by Chemical Parameter



# Water Quality Summary

## Overall Water Quality

Overall Water Quality			
	Number of Analytical Tests	Number of Tests Exceeding PCV	% Compliance with Regulatory Standards
<b>Water Leaving Treatment Works</b>			
Bacteriological Analysis	12,588	4	99.97
Indicator parameters	6,537	4	99.94
<b>Total</b>	<b>19,125</b>	<b>8</b>	<b>99.96</b>

Water in Service Reservoirs			
Bacteriological Analysis	29,590	11	99.96
<b>Total</b>	<b>29,590</b>	<b>11</b>	<b>99.96</b>

Water at Customers' Taps or Authorised Supply Points			
Bacteriological Anal. inc Coliforms	11,844	23	99.81
Zone Chemical Analysis	29,921	39	99.87
Supply Point Chemical Analysis	9,751	0	100.00
<b>Total</b>	<b>51,516</b>	<b>62</b>	<b>99.88</b>

<b>Total Mandatory Parameters</b>	<b>93,694</b>	<b>77</b>	<b>99.92</b>
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<b>Overall Water Quality Total</b>	<b>100,231</b>	<b>81</b>	<b>99.92</b>
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Explanatory notes of exceedances of the microbiological and chemical quality standards with less than 100% compliance are provided in the following section.

# Water Quality Issues

During 2023, on occasion the following main chemical parameters exceeded their prescribed concentration or value, or have historically been parameters of concern.

## Aluminium

The standard set for aluminium is based on aesthetic considerations. A number of water supplies may contain concentrations of aluminium, which could exceed the standard from time to time because of changes in raw water quality or treatment process fluctuations. These treatment processes are regularly reviewed and optimised to reduce the aluminium levels to below regulatory levels. Improvements to the treatment processes at WTWs which have been identified for funding in the PC21 Price Control Process should result in an improving level of aluminium compliance.

## Iron

The iron standard has been set for aesthetic reasons as levels persistently above the standard can give rise to discoloured water and particulate matter. Where the standard for iron has not been met, this may be due to problems of corrosion of iron water mains. There is an ongoing proactive programme of flushing and cleaning of the distribution system to minimise the problem. In addition, NI Water has an ongoing Water Mains Rehabilitation Programme in which supply zones that experience water quality and other supply problems are subjected to a detailed assessment. This includes the analysis of historic water quality data (including iron), customer complaint information, and the implementation of targeted water quality sampling and analysis programmes to determine the nature and extent of the water quality problems. Appropriate solutions to the problems are then developed which include mains cleaning and renovation, and replacement of parts of the distribution system. Implementation of the solutions is undertaken either by NI Water or by its contractors.

## Lead

Water leaving treatment works and in the distribution systems, contains only trace amounts of lead. However, where lead has been used for service pipes between the water main and the kitchen tap or in domestic plumbing, there may be a risk of concentrations at the customer tap exceeding the lead standard.

Having lead pipework is likely to result in lead levels in drinking water, which are above the limits set out in drinking water regulations. The regulatory limit (PCV or Prescribed Concentration or Value) for lead in drinking water is 10 µg/l.

The Drinking Water Regulations require that NI Water must minimise the risk of exceedances of the regulatory limit for lead drinking water (10 µg/l) whether the risk for failure is due to the company or customer owned pipes. Orthophosphoric acid is added to the water supply, across Northern Ireland, to reduce the amount of lead 'pick up' from lead pipes, into the drinking water at the customer tap. This is a water industry wide practice to help to reduce the risk of lead exceedances and to meet the requirements of the drinking water regulations. Orthophosphate dosing has been very successful in mitigating the risk for lead failures. However, this treatment alone will not ensure 100% compliance due to the presence of lead supply pipes in customer property. The age and condition of lead pipe can result in lead in the drinking water being above the regulatory limit even with orthophosphate dosing in place. The only way to remove the risk for lead in drinking water is for all lead pipe to be removed, including within customer properties.

# Water Quality Issues

In addition to treatment of drinking water, to minimise lead pick up from pipework, NI Water has a programme to identify and replace lead communication pipes within its infrastructure, either through our targeted lead pipe replacement programme or the replacement of lead communication pipes encountered during water mains rehabilitation. As part of this programme, customers are informed when lead communication pipes (NI Water's responsibility) have been replaced and are encouraged to replace their lead supply pipe (customer's responsibility).

Lead monitoring, through customer tap sampling and analysis, forms part of our routine testing regime in line with the requirements of the Drinking Water Regulations. Where a sample taken for lead analysis is shown to exceed the

regulatory limit for lead NI Water is required under the Drinking Water Regulations to inform the customers, and their neighbours, of the lead result. In addition if a sample is found to exceed the limit for lead in drinking water the Public Health Agency, the local Environmental Health Officer, and DWI are notified by NI Water. Where it is found that the exceedance is attributable to a lead service pipe NI Water will replace free of charge, any of its lead pipes supplying the property. It will be the responsibility of the property owner to replace any lead pipework on the property.

Many older properties still have service pipes and internal plumbing wholly or partly comprised of lead. Lead pipework was used in many houses built in Northern Ireland before 1970 and much of it still exists.



# Water Quality Issues

It is therefore important for householders to check if they have any lead pipework in their property.

Some simple checks for householders to do include:

- Look in or behind the cupboards in your kitchen. You may also need to look in other places, such as the cupboard under the stairs. Find the pipe leading to the kitchen tap. Check if it is lead along as much of its length as possible. Unpainted lead pipes are dull grey, and the surface feels soft. If you scrape the surface gently with a kitchen knife, you will see the shiny, silver-coloured metal beneath.
- Open the flap of the stop valve outside your property. Examine the pipe leading from the stop valve to your property. If you can, scrape its surface gently.
- Some other pipe materials which you might come across which are normal and don't need replaced include copper, iron, and plastic.
- If you are still unsure, ask a plumber for a second opinion.

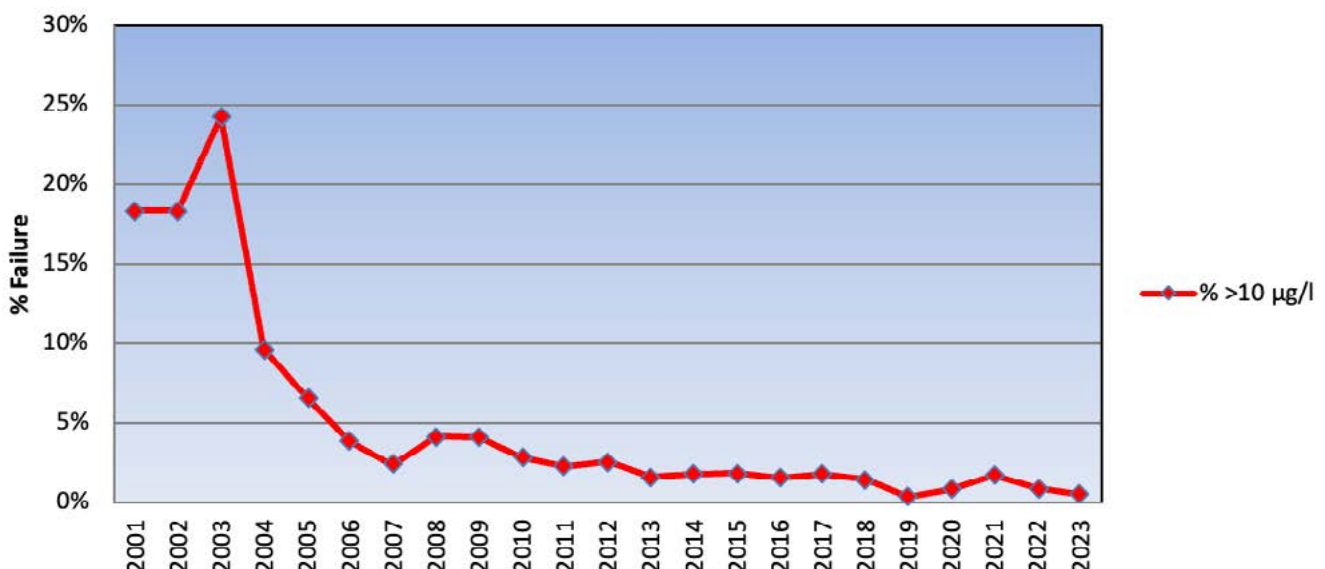
If you find lead pipes, you should have these replaced as soon as possible. It will be the responsibility of the property owner to replace any lead pipework on the property. NI Water will replace free of charge, any of its lead pipes supplying a property, if it receives a written request from a customer who has replaced the portion of lead service pipe for which the householder is responsible.

A leaflet on Lead in Drinking Water is available from the NI Water website at [www.niwater.com/about-your-water](http://www.niwater.com/about-your-water)

Amongst other details, this leaflet explains who is responsible for replacing each part of the lead in the domestic system.

The effectiveness of the dosing can be seen in the graph below, showing the optimisation of the dosing from the water treatment works to meet the new regulations.

## % Lead Exceedances against the current 10 µg/l Standard



The lead in drinking water standard was reduced from 25 µg/l to 10 µg/l at the end of 2013.



## Manganese

Manganese occurs naturally in many water sources. Concentrations can vary seasonally or be attributed to the disturbance of accumulated deposits at the bottom of reservoirs when the water is drawn down or when water circulation occurs. Treatment is in place at our WTWs for manganese and this removes manganese to very low concentrations in the treated drinking water. However, manganese can deposit within the distribution system and may cause discoloured water if the deposits are disturbed during operational activity within the distribution network.

The standard for manganese has been set for aesthetic reasons to prevent unpleasant tastes, staining or discoloured water.

## Nickel

Nickel exceedances are typically caused by customers' taps or fittings and are not normally due to issues with the public water supply. Customers are informed in writing when a nickel exceedance has been due to the internal fittings within their property.

## Pesticides

Pesticides include insecticides, herbicides, fungicides, and algaecides. These can find their way into watercourses from a variety of sources, mainly from use in agriculture or weed control. NI Water has an ongoing pesticide monitoring programme, and analysed samples for 38 individual pesticides during 2023. NI Water liaises with other regulatory bodies in Northern Ireland such as the Northern Ireland Environment Agency (NIEA) regarding the control of pesticide usage.

NI Water is engaged on an ongoing series of catchment management plans as part of its overall Drinking Water Safety Plans, which include looking at pesticide usage and control. The Water Catchment Partnership mentioned previously, has been setup to address pesticide problems across Northern Ireland and raise awareness of the risks of using pesticide products close to drinking water abstraction sources.

NI Water has treatment processes in place for pesticide removal at WTWs where there is an identified risk for the use of pesticides in the catchment. Capital investment was completed in 2023 at Derg WTW for improved pesticide (MCPA) removal. Work is also being undertaken at Ballinrees WTW to improve pesticide (MCPA) removal, this work is scheduled to complete in December 2024. These improvement works will reduce the risk for exceedances of the regulatory standard for pesticides in drinking water in these supply areas.

## Total Trihalomethanes (THMs)

THMs are chlorination by-products arising from the reaction of chlorine, used for disinfection, with natural organic material present in water. The maintenance of microbiological quality by disinfection using chlorine is NI Water's main priority. NI Water's water abstractions are predominantly drawn from surface sources, which can contain these natural organic materials.

THM formation is dependent on a wide range of differing factors and so changes in THM concentrations may be a consequence of one or many factors. THM levels tend to increase with pH, temperature, contact time, residence time, length of the distribution network, and the level of "precursors" present. Precursors are the organic material that reacts with chlorine to form THM's.

NI Water has developed and put in place ongoing THM action plans to reduce the risk of THM failures. These action plans alongside our drinking water safety plan risk assessment process are used to help identify where investment may be required to reduce the risk of THM failures. NI Water's ongoing water treatment works investment programme is designed to provide improved treatment to reduce organic matter prior to chlorination and thereby reduce THM levels.

In addition to its ongoing programmes of work, NI Water is constantly reviewing its operational procedures to reduce THM levels in the distribution system, whilst maintaining microbiological quality.

Capital investment at a number of WTWs is planned during the PC21 period with THMs as the water quality driver. Improved compliance over all of Northern Ireland is expected as improvements to water treatment works and the distribution system continue.

# Water Quality Issues

## Turbidity

Turbidity is caused by very fine insoluble material that may be present in water. Levels are closely monitored during the treatment processes. The PCV at the WTW is 1 NTU.

Particulate matter, usually the re-suspension of sediments present in the distribution system due to disturbance from operational activity, can affect the turbidity of drinking water. Systematic flushing of the local pipe work will restore water quality. The PCV at the customer tap is 4 NTU.

## Taste and Odour

Customer concerns quite often relate to taste and odour. Analytical tests are carried out to measure the level of taste and odour and are performed by a specialist testing panel. There can be a variety of reasons for people to notice a slight change in the odour or taste of their water. This could include:

- The use of chlorine as a disinfectant
- Seasonal changes
- A change in your water supply
- Moving from one area to another
- Your plumbing

Some customers describe their water this as smelling earthy/ musty or stale. It can have several sources:

- Volatile organic by-products of algae or harmless micro-organisms in the raw water sources. These natural organic compounds, Geosmin and Methyl-Isoborneol (MIB) can give an earthy or musty smell and taste to the water. Geosmin and MIB are also commonly found in soil and foods such as beetroots, spinach and mushrooms. They are naturally occurring and are not harmful to health. Geosmin and MIB can be detected by some people even at incredibly low concentrations, which means that even at concentrations of these compounds as low as 5 parts per trillion in drinking water, which is equivalent to 1 teaspoon in 200 Olympic swimming pools, can be detected by some people. In areas where we know this is a problem, we treat the water with activated carbon and or ozone.
- Long lengths of pipework within large buildings.

## Summary

All exceedances of the regulatory standard are investigated following procedures agreed with the Health Authorities and the Drinking Water Inspectorate. Closure of an event cannot take place without their approval.

## Further information

Various information leaflets giving more details of water information may be found at [www.niwater.com/about-your-water](http://www.niwater.com/about-your-water)

# The Water Supply (Water Fittings) Regulations (NI) 2009

NI Water was granted an operating licence to provide water and sewerage services in Northern Ireland on 1st April 2007, replacing the former Water Service which was an executive agency within the former Department for Regional Development (DRD).

This change in the delivery of water and sewerage services in Northern Ireland was accomplished under auspice of The Water and Sewerage Services (Northern Ireland) Order 2006 (the 2006 Order). The Water Supply (Water Fittings) Regulations (Northern Ireland) 2009 (the 2009 Regulations) were subsequently made by the then DRD under Articles 114 and 300(2) of the 2006 Order and came into operation on 3rd August 2009.

NI Water is obliged to inspect its customer premises for compliance with the requirements of the 2009 Regulations which are primarily designed to prevent the **waste, misuse, undue consumption, erroneous measurement of water** and most importantly to **prevent contamination** of wholesome water. Owners and occupiers of premises, and anyone who install plumbing systems or water fittings, have a legal duty to ensure that their systems satisfy the requirements of the Regulations. Advance notice must be given, in most cases, of proposed

installations, so architects, building developers and plumbers follow the Regulations on behalf of future owners or occupiers. Whilst voluntary compliance is preferable NI Water are likewise authorised to take formal enforcement action against customers in cases of non-compliance.

Department for Infrastructure (DfI) Water and Drainage Policy Division (WDPD) is deemed the Regulator of this activity and meet NI Water on a quarterly basis to discuss issues arising under the Regulations, compliance activities and contraventions. NI Water is also obliged to publish a report on customer compliance activities no later than the 30th of June every year, a copy of which is provided to DfI. NI Water's implementation of the 2009 regulations is detailed at Appendix 6 herein. The table below details the numbers of inspections completed contraventions observed and contraventions awaiting customer resolutions during the 2023 calendar year.

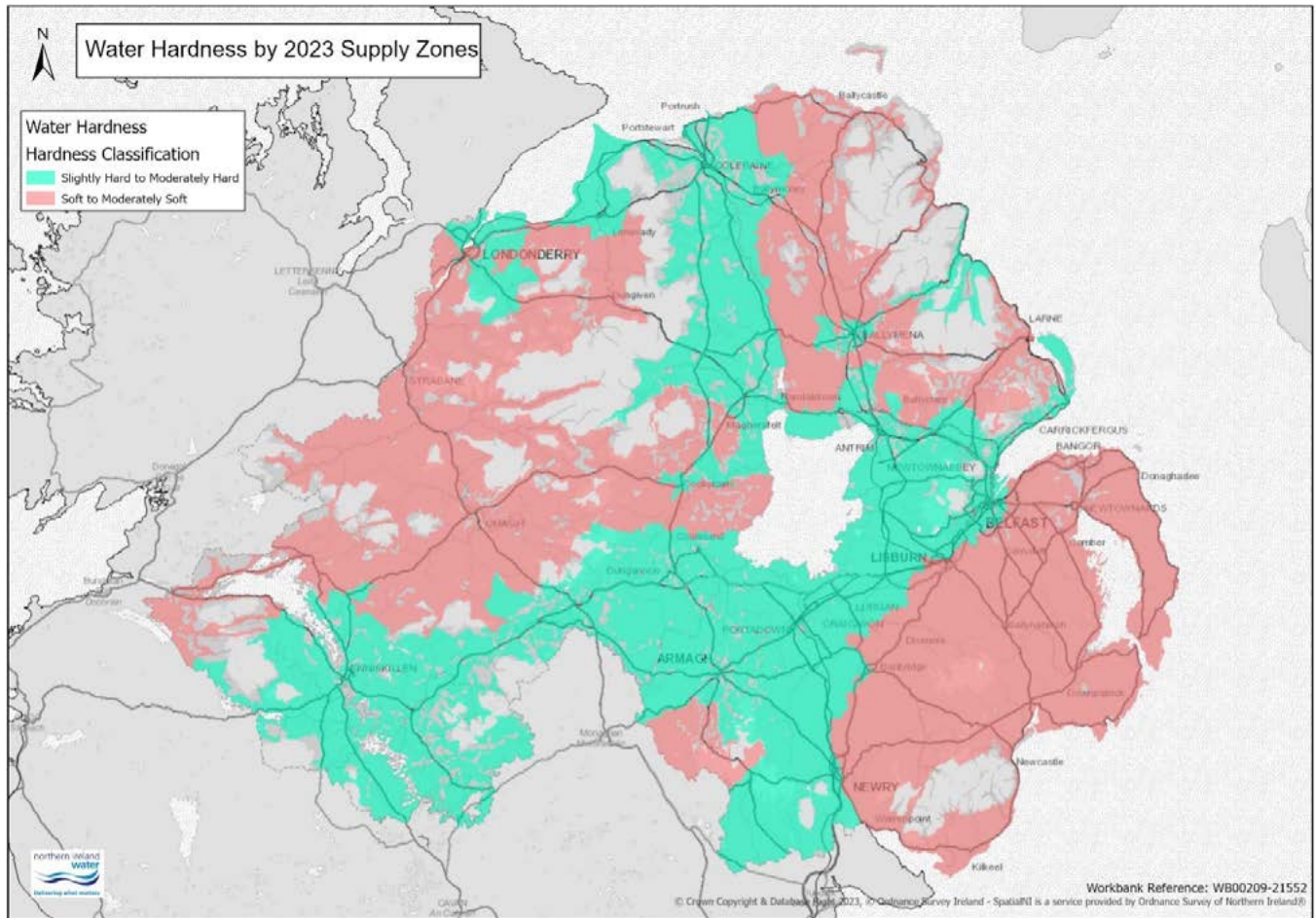
Description	Number (by 2023 calendar year)
Number of Domestic and Non Domestic Inspections	926
• Proactive	873
• Reactive	53
Number of Premises/Bodies visited	963
Number of Contraventions recorded	2723
Number of Contraventions recorded (All FC1-3)	2400
Number of Contraventions recorded (All FC4-5)	323
Number of Contraventions rectified (FC1-3)	1250
Number of Contraventions rectified (FC4-5)	323
Number of Outstanding Contraventions	1065
Referred for enforcement (Legal Department)	0

# Public Information

## Drinking Water Register

A Drinking Water Register is available from NI Water's website at <http://www.niwater.com/water-quality-results/> showing the most recent year's detailed water quality results for customers based on their postcode, and details of water hardness to enable customers to set up dishwashers etc correctly.

## Water Hardness Map



Hardness of water is natural and is normally caused by the rocks through which the water has passed. Hardness is a measure of the calcium and magnesium concentrations in water. Hardness means you may have to use more soap when washing as hard water lathers less than soft water. Hardness has no adverse effects on health and is safe to drink. There is no standard specified within the drinking water regulations.

If you are unable to access the website, the Register may be requested, free of charge, during normal working office hours through the customer relations centre below. Customers may request and obtain a free copy of the information for the water supply zone they live in.

# Public Information

Customers, who wish to receive information about the quality of water in their water supply zone by post, can write to the address listed below:

**NI Water Customer Relations Centre  
Radio Workshop  
Westland House  
Old Westland Rd  
Belfast BT14 6TE**

Customers can contact the Customer Relations Centre on our Waterline:  
[03457 440088](tel:03457440088)

Customers who have hearing difficulties can also contact us via Text Relay on:  
[03457 440088](tel:03457440088)

Customers may also contact Customer Services by email on:  
[waterline@niwater.com](mailto:waterline@niwater.com)

Further information for customers may be obtained at the following website:  
<http://www.niwater.com>

This site also contains a PDF version of the most recent Water Quality report.

## Social Media

NI Water actively uses social media to interact with and inform its customers. This includes:

### Facebook



This is updated routinely and in the event of a major incident will be used to communicate directly with customers on <https://www.facebook.com/niwater/>

### YouTube



NI Water has its own YouTube channel <http://www.youtube.com/northernirelandwater> that hosts NI Water videos such as “How to protect your pipes”, “Saving water in the home” or “Your water bill explained”. It can also be used to host video messages for customers during a major incident.

### X (Formerly Twitter)



NI Water’s X account is routinely used to respond directly to customers queries at [@niwnews](https://twitter.com/niwnews).

We are extending our social media service and introducing LiveChat at <https://www.niwater.com/contact-us/>, providing more ways to keep our customers informed and offering them more choices for interacting with us.



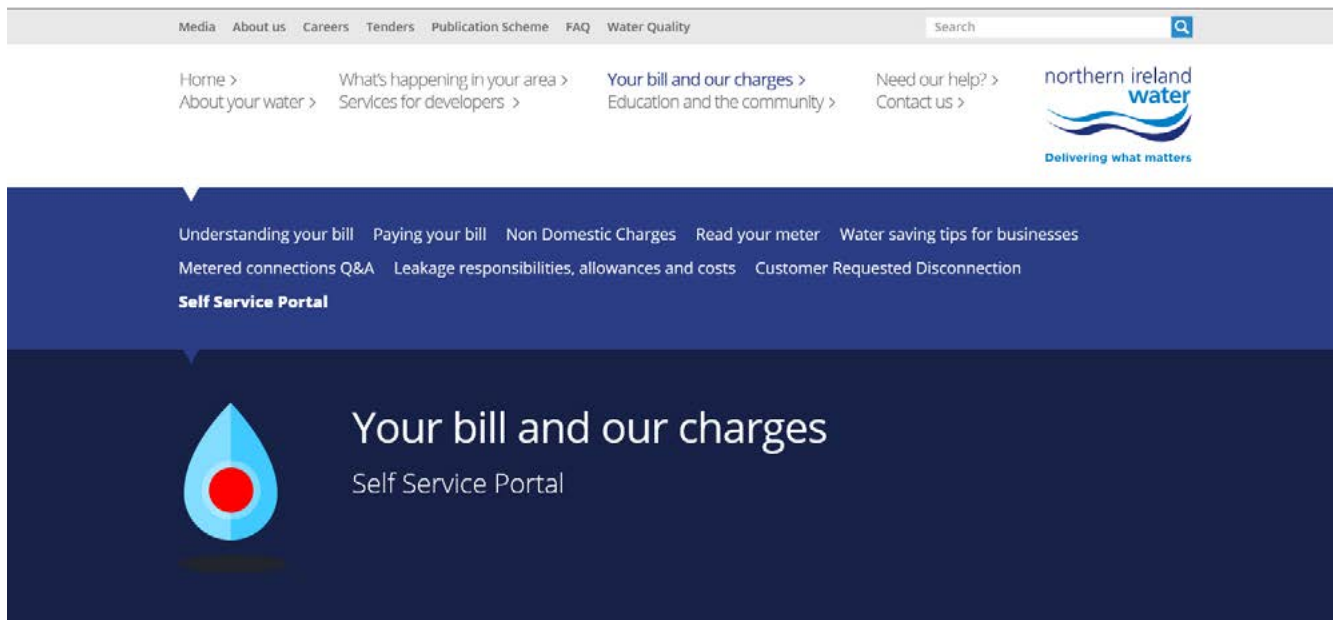
## Customer Services

Staff in the Customer Relations Centre record details and the nature of all enquiries, requests for services, emergencies, and complaints. All contacts are logged and routed directly to staff who will investigate the matter and resolve the problem as quickly as possible.

Customer Services produces a range of leaflets about services provided, including those designed to give customers the opportunity to learn more about water quality standards, water efficiency and the need to use water wisely. The leaflets can be obtained from the Customer Relations Centre or may be viewed on the above website at [www.niwater.com/about-your-water](http://www.niwater.com/about-your-water)

## Self Service Portal

As part of our ongoing efforts to improve the overall customer experience, we have taken steps to make interactions more convenient by developing a web-based Self Service platform. This allows customers to log into their personal account online and access their details at a time that is convenient to them.



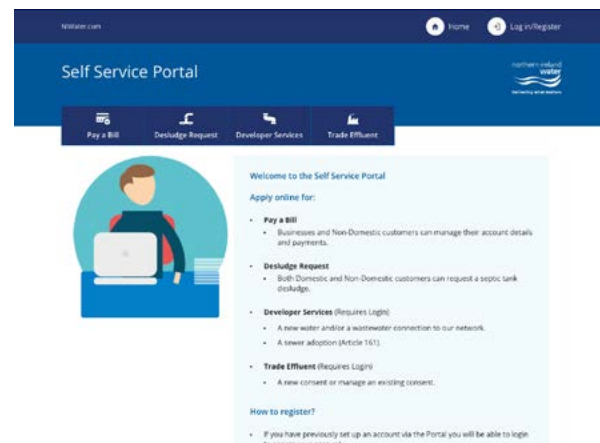
Customers are able to:

### Apply online for:

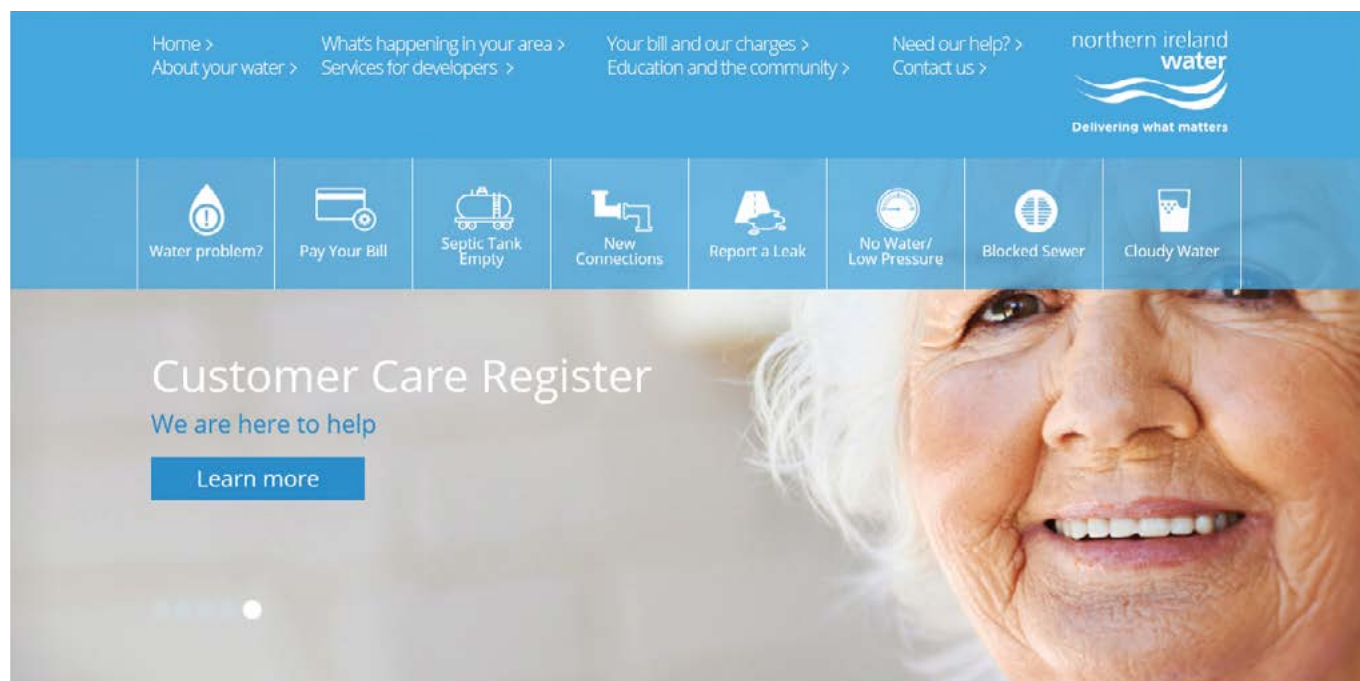
- **Pay a Bill**
  - Businesses and Non-Domestic customers can manage their account details and payments
- **Desludge Request**
  - Both Domestic and Non-Domestic customers can request a septic tank desludge
- **Developer Services (Requires Login)**
  - A new water and/or a wastewater connection to our network
  - A sewer adoption (Article 161)
- **Trade Effluent (Requires Login)**
  - A new consent or manage an existing consent

This web portal is found at:

<https://digitalservices.niwater.com>



## Customer Care Register



NI Water provides essential services for all our customers throughout Northern Ireland.

We offer a range of free additional services if you are an older customer, have a serious medical condition, or need extra help for any other reason.

You need to join our Customer Care Register at this [link](#) to get the extra free services you or anyone in your household would like to receive.

Alternatively, telephone Waterline on **03457 440088**

### Doorstep Service

If you have a hearing difficulty, we will knock the door louder and speak clearly when we call with you. If you have a mobility problem, we will allow more time for you to answer the door.

### Password Scheme

You can ask for a password to help you identify our staff. Please arrange a password with us. Our staff will always use this password when they visit you.

If someone claims to work for us but does not know your password, do not let them in.

Instead, please get in touch with us and we will check to see if the caller really works for us.

### Carers Contact Service

You can name a carer or relative who:

- can contact us on your behalf
- we can contact if we need to reach you at anytime
- we can post information directly to

# Major Incident Information

**In a major incident or emergency (such as freeze/thaw events following a prolonged period of extremely cold weather), NI Water can experience a massive increase in demand for information by our customers which would overwhelm the normal systems in place.**

To increase the number of calls answered and the quality of information provided, NI Water has installed a High Volume Call Answering (HVCA) system. This “always-on” service monitors all incoming calls to Waterline and takes on the additional load during unexpected peaks. The NI Water HVCA system recognises customers using the telephone number held on their customer record or it can use Voice Recognition to allow customers to state their Post Code etc. (Voice Recognition like this is used on many smartphones and call handling systems in banks etc).

NI Water’s customers should have a better experience when they ring us because their all will always be answered, and they should be provided with up-to-date information.

NI Water’s management of the incident will be improved because we will know when, and why, each customer has called. This allows a more

detailed picture of the reasons customers are calling and the potential causes to be built up. This technology puts NI Water on a par with other utilities in Northern Ireland and other water companies in the UK.

## Major Incident and Major Emergency Website

NI Water’s website routinely provides information to its customers regarding interruptions, repairs, and planned upgrades as well as frequently asked questions and answers and links to helpful sites e.g. to find a plumber etc.

If a major incident or emergency is declared, NI Water’s normal website has the facility to become a dedicated portal for emergency information. This allows customers to quickly find out information based on their postcode.

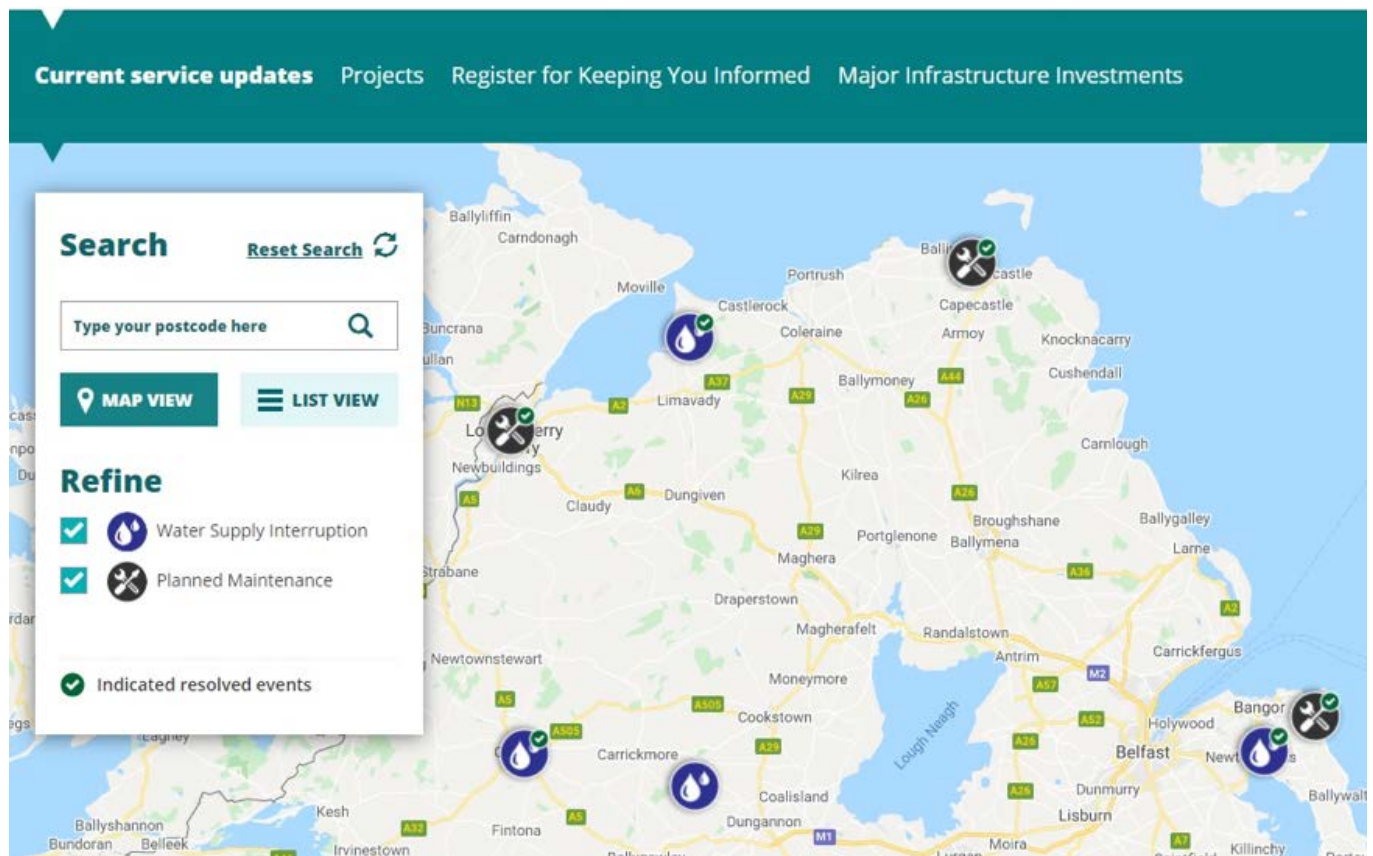
The screenshot shows the NI Water website interface. At the top, there is a navigation bar with links: Home >, About your water >, What's happening in your area >, Services for developers >, Your bill and our charges >, Education and the community >, Need our help? >, Contact us >. The NI Water logo is on the right with the tagline "Delivering what matters". Below the navigation bar is a row of service icons: Water problem?, Pay Your Bill, Septic Tank, New Connections, Report a Leak, No Water/ Low Pressure, Blocked Sewer, and Cloudy Water. The main content area features a large blue banner with the text "Belfast City Centre Water Supply Disruption" and "Waterline 03457 440088". A "Learn more" button is located below the text. On the right side of the banner is a large white warning triangle with a red exclamation mark inside.



# Major Incident Information

Information available includes:

- Bursts
- Alternative Water Supplies
- Planned Restrictions to Supply
- Low Reservoir Levels
- Boil Notices



# Appendix 1

## Drinking Water Quality Standards

### Water Supply (Water Quality) Regulations (Northern Ireland) 2017

#### Schedule 1

##### Prescribed Concentrations And Values

**Table A.**  
**Microbiological Parameters**

Part I: Directive Requirements

Parameters	Concentration or Value (maximum)	Units of Measurement	Point of compliance
Enterococci	0	number/100ml	Customers' taps
<i>Escherichia coli</i> ( <i>E. coli</i> )	0	number/100ml	Customers' taps
Coliform bacteria	0	number/100ml	Customers' taps

**Table B.**  
**Chemical Parameters**

Part I: Directive requirements

Parameters	Concentration or Value (maximum)	Units of Measurement	Point of compliance
Acrylamide	0.10	µg/l	(i)
Antimony	5	µg Sb/l	Customers' taps
Arsenic	10	µg As/l	Customers' taps
Benzene	1	µg/l	Customers' taps
Benzo(a)pyrene	0.01	µg/l	Customers' taps
Boron	1	mg B/l	Customers' taps
Bromate	10	µg BrO <sub>3</sub> /l	Customers' taps
Cadmium	5	µg Cd/l	Customers' taps
Chromium	50	µg Cr/l	Customers' taps
Copper	2	mg Cu/l	Customers' taps
Cyanide	50	µg CN/l	Customers' taps
1,2 Dichloroethane	3	µg/l	Customers' taps*
Epichlorohydrin	0.10	µg/l	(i)
Fluoride	1.5	mg F/l	Customers' taps
Lead	10	µg Pb/l	Customers' taps
Mercury	1	µg Hg/l	Customers' taps
Nickel	20	µg Ni/l	Customers' taps
Nitrate	50	mg NO <sub>3</sub> /l	Customers' taps
Nitrite	0.5	mg NO <sub>2</sub> /l	Customers' taps
Aldrin	0.03	µg/l	Customers' taps*
Dieldrin	0.03	µg/l	Customers' taps*
Heptachlor	0.03	µg/l	Customers' taps*
Heptachlor epoxide	0.03	µg/l	Customers' taps*

# Appendix 1

Parameters	Concentration or Value (maximum)	Units of Measurement	Point of compliance
Other pesticides	0.1	µg/l	Customers' taps*
Total Pesticides (ii)	0.5	µg/l	Customers' taps*
PAH - Sum of four substances (iii)	0.1	µg/l	Customers' taps
Selenium	10	µg Se/l	Customers' taps
Tetrachloroethene/ Trichloroethene - Sum (iv)	10	µg/l	Customers' taps*
Total Trihalomethanes (v)	100	µg/l	Customers' taps
Vinyl chloride	0.50	µg/l	(i)

**Notes:**

- (i) The parametric value refers to the residual monomer concentration in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water. This is controlled by product specification.
  - (ii) Total Pesticides: means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring procedure.
  - (iii) The specified compounds are:
    - benzo(b)fluoranthene
    - benzo(k)fluoranthene
    - benzo(ghi)perylene
    - Indeno (1,2,3-cd) pyrene.
  - (iv) The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.
  - (v) The specified compounds are:
    - chloroform
    - bromoform
    - dibromochloromethane
    - bromodichloromethane
- \* May be monitored from samples of water leaving treatment works or other supply point, as no significant change during distribution.

# Appendix 1

## Part II: National Requirements

Parameters	Concentration Or Value (Maximum Unless Otherwise Stated)	Units Of Measurement	Point Of Compliance
Aluminium	200	µg Al/l	Customers' taps
Colour	20	mg/l Pt/Co	Customers' taps
Iron	200	µg Fe/l	Customers' taps
Manganese	50	µg Mn/l	Customers' taps
Odour	0	Dilution Number	Customers' taps
Sodium	200	mg Na/l	Customers' taps
Taste	0	Dilution Number	Customers' taps
Tetrachloromethane	3	µg/l	Customers' taps
Turbidity	4	NTU	Customers' taps

## Schedule 2

### Indicator Parameters

Parameters	Specification Concentration or Value (maximum) or State	Units Of Measurement	Point Of Monitoring
Ammonium	0.5	mg NH <sub>4</sub> /l	Customers' taps
Chloride (i)	250	mg Cl/l	Supply point*
Clostridium perfringens (including spores)	0	Number/100ml	Supply point*
Colony counts	No abnormal change	Number/1ml at 22°C Number/1ml at 37°C	Customers' taps, service reservoirs and treatment works
Conductivity (i)	2500	µS/cm at 20°C	Supply point*
Hydrogen ion	9.5	pH value	Customers' taps
	6.5 (minimum)	pH value	
Sulphate (i)	250	mg SO <sub>4</sub> /l	Supply point*
Total indicative dose (for radioactivity) (ii)	0.1	mSv/year	Supply point*
Total organic carbon (TOC)	No abnormal change	mg C/l	Supply point*
Tritium (for radioactivity)	100	Bq/l	Supply point*
Turbidity	1	NTU	Treatment works

### Notes:

(i) The water should not be aggressive.

(ii) Excluding tritium, potassium-40, radon, and radon decay products.

\* May be monitored from samples of water leaving treatment works or other supply point, as no significant change during distribution.

### Explanatory Notes

#### Measurement Units:

Milligram per litre (mg/l) means one part in a million.

Microgram per litre (µg/l) means one part in a thousand million.

#### Parameter:

A parameter refers to any substance, organism or property listed above.

# Appendix 2

## Water Quality Report for Water Supply Zones

Schedule 1 parameters	Units	2023 Samples	No > PCV	% > PCV
1,2 Dichloroethane	µg/l	464	0	0.00%
Aluminium	µg Al/l	2,036	8	0.39%
Antimony	µg Sb/l	464	0	0.00%
Arsenic	µg As/l	464	0	0.00%
Benzene	µg/l	464	0	0.00%
Benzo(a)pyrene	ng/l	463	0	0.00%
Boron	µg B/l	464	0	0.00%
Bromate	µg/l	464	0	0.00%
Cadmium	µg Cd/l	464	0	0.00%
Chromium	µg Cr/l	464	0	0.00%
Colour	mg/l Pt/Co	2,036	0	0.00%
Copper	mg Cu/l	464	0	0.00%
E. coli	No./100ml	5,568	0	0.00%
Enterococci	No./100ml	464	1	0.22%
Fluoride	mg F/l	464	0	0.00%
Iron	µg Fe/l	2,036	6	0.29%
Lead	µg Pb/l	464	1	0.22%
Manganese	µg Mn/l	2,036	2	0.10%
Mercury	µg Hg/l	464	0	0.00%
Nickel	µg Ni/l	464	1	0.22%
Nitrate	mg NO <sub>3</sub> /l	464	0	0.00%
Nitrite	mg NO <sub>2</sub> /l	464	0	0.00%
Odour	dilution No	2,036	5	0.25%
PAH - Sum of four substances	µg Se/l	463	0	0.00%
Selenium	mg Na/l	464	0	0.00%
Sodium	dilution No	464	0	0.00%
Taste	µg/l	2,036	5	0.25%
Tetrachloroethene/Trichloroethene - Sum	µg/l	464	0	0.00%
Tetrachloromethane	µg/l	463	0	0.00%
Total Trihalomethanes	µg/l	464	10	2.16%
Turbidity	FTU	2,036	1	0.05%

Indicator parameters	Units	2023 Samples	No > PCV	% > PCV
Coliform bacteria	No./100ml	5568	22	0.40%
Total - Residual disinfectant	mg Cl/l	5668	-	-
Free - Residual disinfectant	mg Cl/l	5668	-	-
Colony Counts 37 (48hrs)	No./1 ml	2036	-	-
Colony Counts 22	No./1 ml	2036	-	-
Total Organic Carbon	mg C/l	460	-	-
Ammonium	mg NH <sub>4</sub> /l	464	0	0.00%
Chloride	mg Cl/l	464	0	0.00%
Hydrogen Ion	pH value	2036	0	0.00%
Conductivity	uS/cm 20	2036	0	0.00%
Sulphate	mg SO <sub>4</sub> /l	464	0	0.00%

# Appendix 2

## Water Quality Report for Authorised Supply Points

Schedule 1 parameters	Units	2023 Samples	No > PCV	% > PCV
Cyanide	µg CN/l	242	0	0.00%
Pesticides - Total Substances	µg/l	242	0	0.00%
All other analysed Pesticides	µg/l	9208	0	0.00%

Indicator parameters	Units	2023 Samples	No > PCV	% > PCV
Clostridium perfringens (sulph red)	No./100 m	244	0	0.00%
Total Indicative Dose		29	0	0.00%
Tritium	Bq/l	30	0	0.00%

## Water Quality Report for Water Treatment Works

Schedule 1 parameters	Units	2023 Samples	No > PCV	% > PCV
Coliform bacteria	No./100ml	6294	3	0.05%
E. coli	No./100ml	6294	1	0.02%
Nitrite	mg NO <sub>2</sub> /l	243	0	0.00%

Indicator parameters	Units	2023 Samples	No > PVC	% > PVC
Turbidity	FTU	6294	4	0.06%
Total - Residual disinfectant	mg Cl/l	6294	-	-
Free - Residual disinfectant	mg Cl/l	6294	-	-
Colony Counts 37 (48hrs)	No./1 ml	6294	-	-
Colony Counts 22	No./1 ml	6294	-	-

## Water Quality Report for Service Reservoirs

Schedule 1 parameters	Units	2023 Samples	No > PCV	% > PCV
Coliform bacteria	No./100m	14795	11	0.07%
E. coli	No./100ml	14795	0	0.00%

Indicator 1 parameters	Units	2023 Samples	No > PVC	% > PVC
Colony Counts 37 (48hrs)	No./1 ml	14795	-	-
Colony Counts 22	No./1 ml	14795	-	-
Total - Residual disinfectant	mg Cl/l	14795	-	-
Free - Residual disinfectant	mg Cl/l	14795	-	-

# Appendix 3

## Water Quality by Northern Ireland Council Area

This section of the Drinking Water Quality Report is designed to demonstrate water quality by individual council area based on the Percentage Compliance at Customer Tap (including Supply Points) over the water supply zones associated with that council area, as shown on the associated maps.

For monitoring purposes, NI Water's supply area is divided into water supply zones as required under the drinking water regulations. These are areas serving not more than 100,000 people, each of which are normally supplied from a single water supply source or combination of sources. There are areas where owing to topography and dispersal of population, it is not practicable to provide a mains water supply. Currently over 99.9% of Northern Ireland's population receive public water supplies.

In a number of cases, water supply zones overlap council boundaries. The council reports indicate which water supply zones are wholly or partially contained within the council areas, including those zones that may have a relatively small area within the council area. Separation of data within these water supply zones across council boundaries is not practicable, therefore the information used in calculating the zonal and council compliance relates to the whole zone and not merely the part included within a council boundary. Following discussions with the Drinking Water Inspectorate, water supply zones with fewer than 40 properties within the council area have not been used to calculate the individual council compliance. The information is based on samples taken randomly from customer taps in each water supply zone and from planned samples at authorised supply points. Due to the nature of random sampling, there may be fluctuations in water quality across the water supply zones.

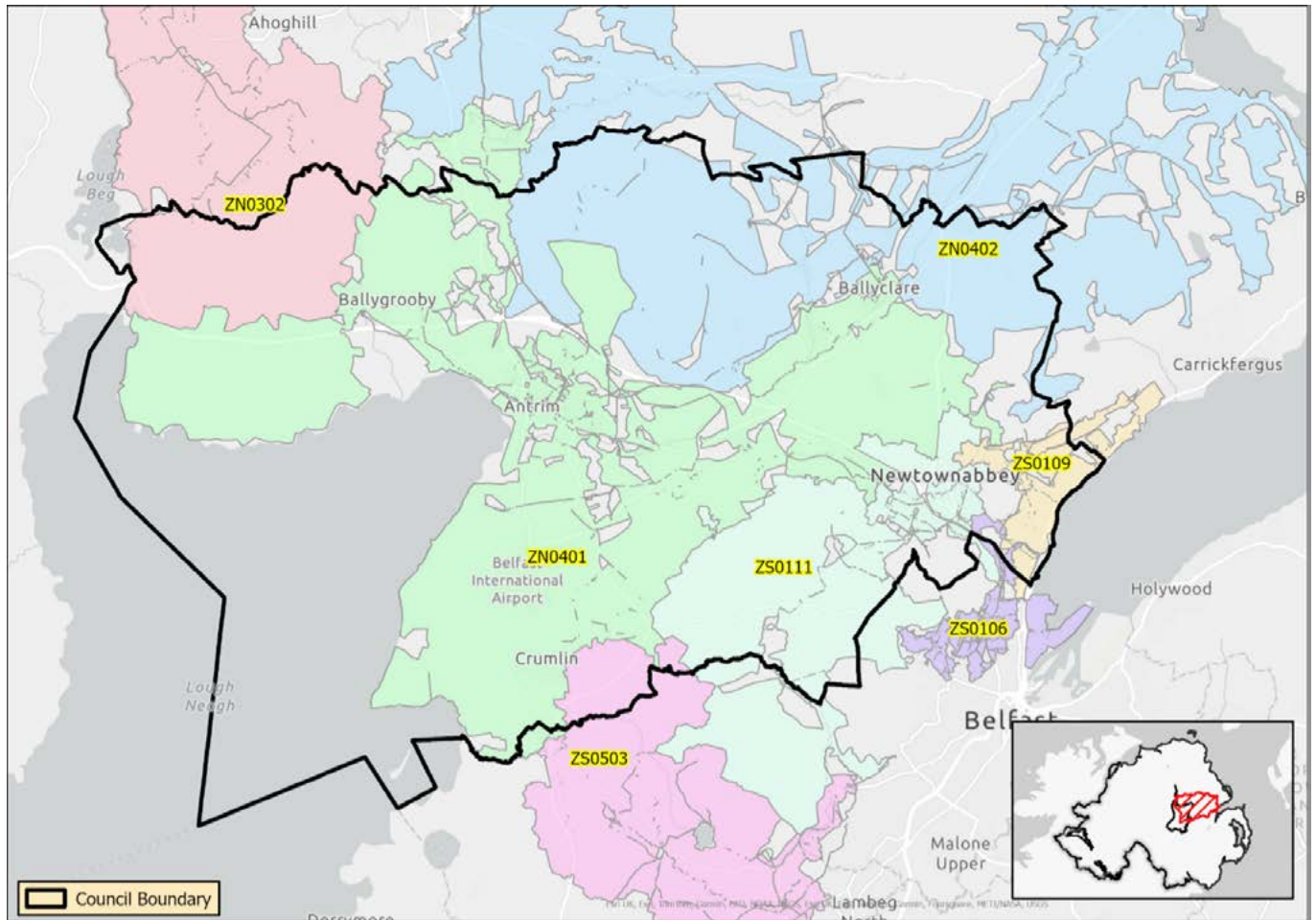
The report also details Capital Work Programmes affecting the council area, which directly related to water quality during the reporting period.

Small variations in water quality compliance performance occur across Northern Ireland. This reflects the need to continue to invest in and to maintain water treatment works, and to improve the water mains network.

NI Water has identified the need to deliver a significant volume of water mains rehabilitation and other works across its ageing network. The works are necessary to ensure the efficient and cost-effective operation of its water supply system in the immediate future and longer term as well as ensuring adequate levels of water quality and customer supply. To achieve this goal, NI Water has implemented a Water mains Rehabilitation Framework, within which it undertakes work on a Northern Ireland wide basis as identified by the zonal study programme of work.

# Appendix 3

## Antrim and Newtownabbey Borough Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Antrim and Newtownabbey Compliance	99.7%	99.9%	99.8%	100.0%	99.9%	99.9%	99.9%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0302	Dungonnell Garryford	ZS0109	Dorisland Whiteabbey
ZN0401	Dunore Point Antrim	ZS0111	Dunore Point Hydepark
ZN0402	Killylane Ballynure	ZS0503	Forked Bridge Stoneyford
ZS0106	Dunore Belfast North		



## Appendix 3

### 2023 water quality Capital Works Programmes affecting the council area:

Antrim South WIIM 2.1 Work Package

Backsyphonage at WTW

Chlorine Station Base Maintenance

Dorisland WTW treatability recommended improvements.

DS14120 - Watermains - Belmont Road Antrim

Filter Media Trial Unit (Dunore Point)

PC21 WIIM Super work package 3- Central

Pilot Plant Operations

Preparation of Initial Work packages for PC21

Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services

Regenerated WIIM WP 2022 C (BSG)

Regenerated WIIM WP 2022 D (Nuline)

Service Reservoir Inspection Programme – Electro Scanning Specialist Support

SR Rehab Programme PC21 Year 1

SR Rehab Programme PC21 Year 2

SR Rehab Programme PC21 Year 3

SR Rehabilitation

Troopers Lane Watermains Replacement

Water Efficiency and Innovation Support Services

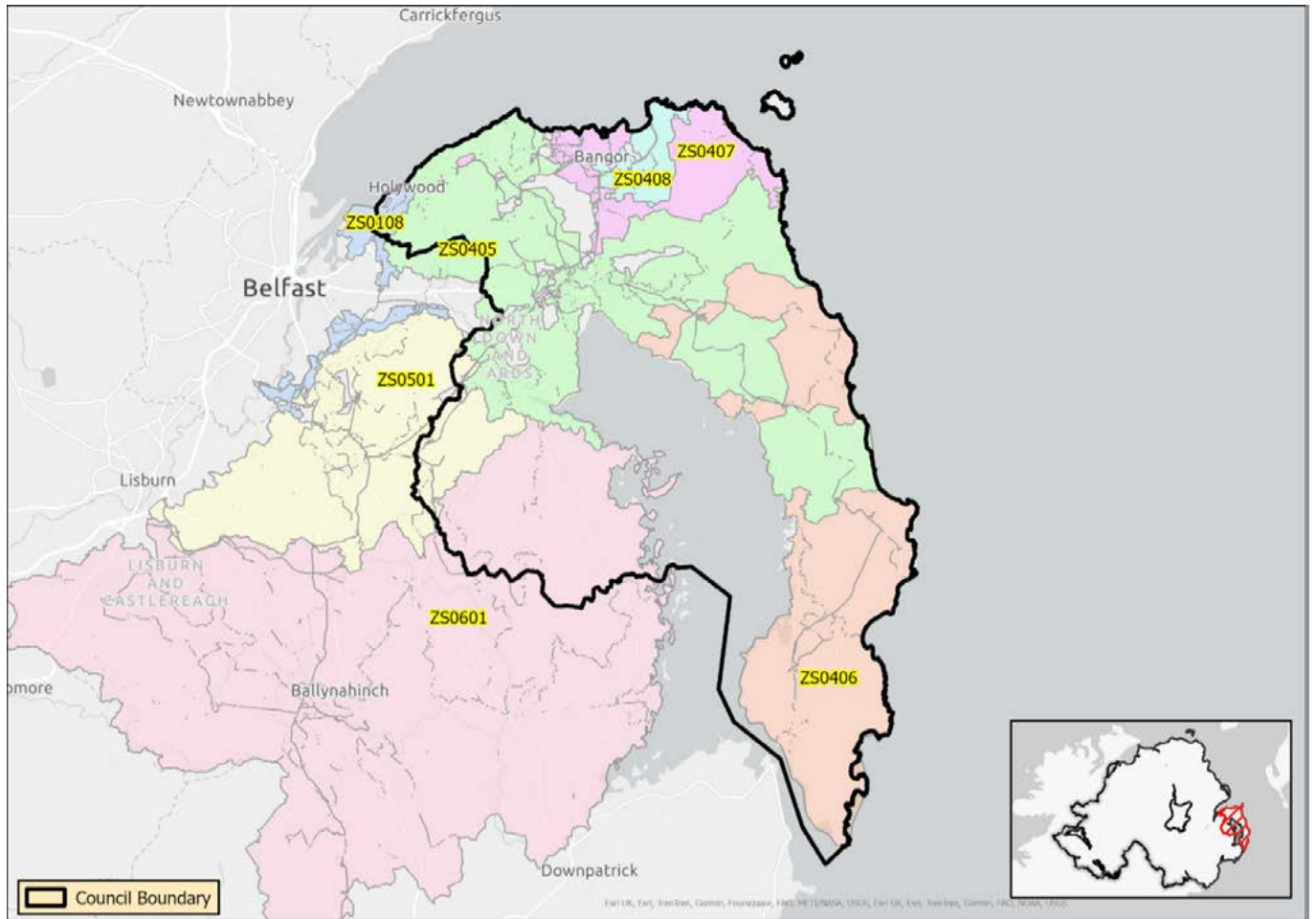
Watermains New - Lead Pipe Replacement Programme

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

# Appendix 3

## Ards and North Down Borough Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Ards and North Down Compliance	99.7%	99.9%	99.9%	99.9%	100.0%	99.9%	100.0%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZS0108	Belfast Purdysburn	ZS0408	Drumroad Bangor East
ZS0405	Drumroad Ards West	ZS0501	Drumroad Lisburn
ZS0406	Drumroad Portaferry	ZS0601	Drumroad Ballynahinch
ZS0407	Drumroad Bangor West		

# Appendix 3

## 2023 water quality Capital Works Programmes affecting the council area:

Backsyphonage at WTW

Chlorine Station Base Maintenance

Eastern Super Work Package

PC21 WIIM Super work package 3- Central

Pilot Plant Operations

Preparation of Initial Work packages for PC21

Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services

Service Reservoir Inspection Programme – Electro Scanning Specialist Support

SR Rehab Programme PC21 Year 2

SR Rehab Programme PC21 Year 3

SR Rehabilitation

Water Efficiency and Innovation Support Services

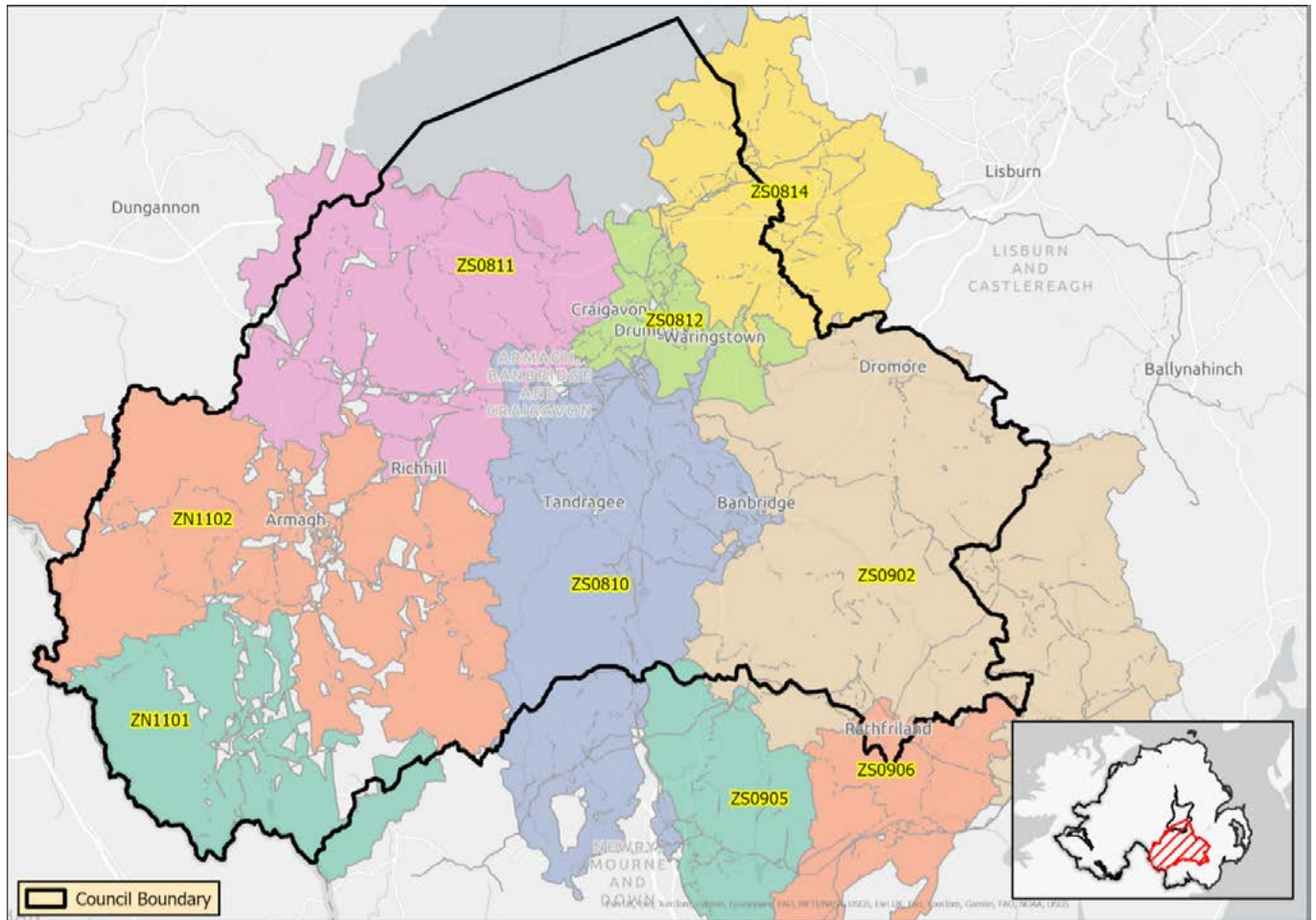
Watermains New - Lead Pipe Replacement Programme

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

# Appendix 3

## Armagh City, Banbridge and Craigavon Borough Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Armagh, Banbridge & Craigavon Compliance	99.7%	99.9%	99.9%	99.9%	99.7%	99.9%	99.9%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN1101	Clay Lake Keady	ZS0814	Castor Bay Moira
ZN1102	Seagahan Armagh	ZS0902	Fofanny Dromore
ZS0810	Castor Bay Tandragee	ZS0905	Fofanny Newry
ZS0811	Castor Bay Portadown	ZS0906	Fofanny Hilltown
ZS0812	Castor Bay Craigavon East		

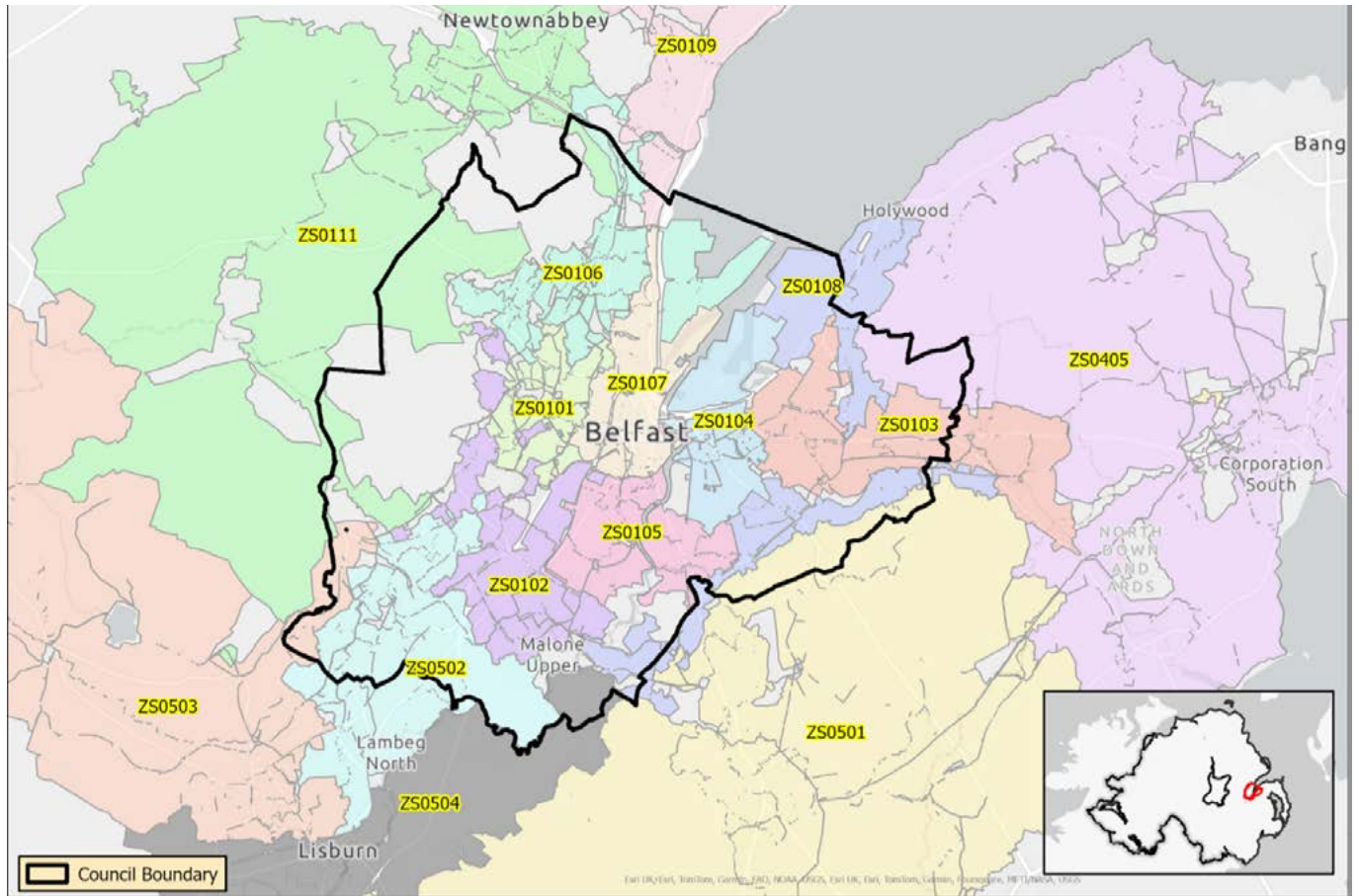
# Appendix 3

## 2023 water quality Capital Works Programmes affecting the council area:

Backsyphonage at WTW  
Carran Hill Treatability Improvements PC21  
Castor Bay to Forked Bridge WPM Maintenance  
Chlorine Station Base Maintenance  
Clay Lake Treatability Improvements  
Clay Lake WTW- LG Sonic Algae Control Unit  
Craigavon WIIM 2.1 Work Package  
Eastern Super Work Package  
Fermanagh North WIIM 2.1 Work Package  
Filter Media Trial Unit (Castor Bay WTW)  
Fofanny Treatability Improvements PC21  
Lurgan Moira WIIM 2.1 Work Package  
PC21 Leakage Work package 1  
PC21 Leakage Work package 3  
PC21 WIIM Super work package 3- Central  
Pilot Plant Operations  
Preparation of Initial Work packages for PC21  
Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services  
Regenerated WIIM WP 2022 B (Campbells)  
Seagahan Treatability Improvements  
Service Reservoir Inspection Programme - Electro Scanning Specialist Support  
SR Rehab Programme PC21 Year 1  
SR Rehab Programme PC21 Year 2  
SR Rehab Programme PC21 Year 3  
SR Rehabilitation  
Water Efficiency and Innovation Support Services  
Watermains New - Lead Pipe Replacement Programme  
WIIM Western Super work package  
WTW Base Maintenance PC21 Year 1  
WTW Base Maintenance PC21 Year 2

# Appendix 3

## Belfast City Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Belfast Compliance	99.7%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZS0101	Dunore Ballygomartin North	ZS0109	Dorisland Whiteabbey
ZS0102	Dunore Ballygomartin South	ZS0111	Dunore Point Hydepark
ZS0103	Belfast Ballyhanwood	ZS0405	Drumaroad Ards West
ZS0104	Belfast Breda North	ZS0501	Drumaroad Lisburn
ZS0105	Belfast Breda South	ZS0502	Poleglass Dunmurry
ZS0106	Dunore Belfast North	ZS0503	Forked Bridge Stoneyford
ZS0107	Belfast Oldpark	ZS0504	Lisburn South
ZS0108	Belfast Purdysburn		

# Appendix 3

## 2023 water quality Capital Works Programmes affecting the council area:

Backsyphonage at WTW

Eastern Super Work Package

Pilot Plant Operations

Preparation of Initial Work Packages for PC21

Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services

Service Reservoir Inspection Programme - Electro Scanning Specialist Support

SR Rehab Programme PC21 Year 1

SR Rehab Programme PC21 Year 2

SR Rehab Programme PC21 Year 3

SR Rehabilitation

Water Efficiency and Innovation Support Services

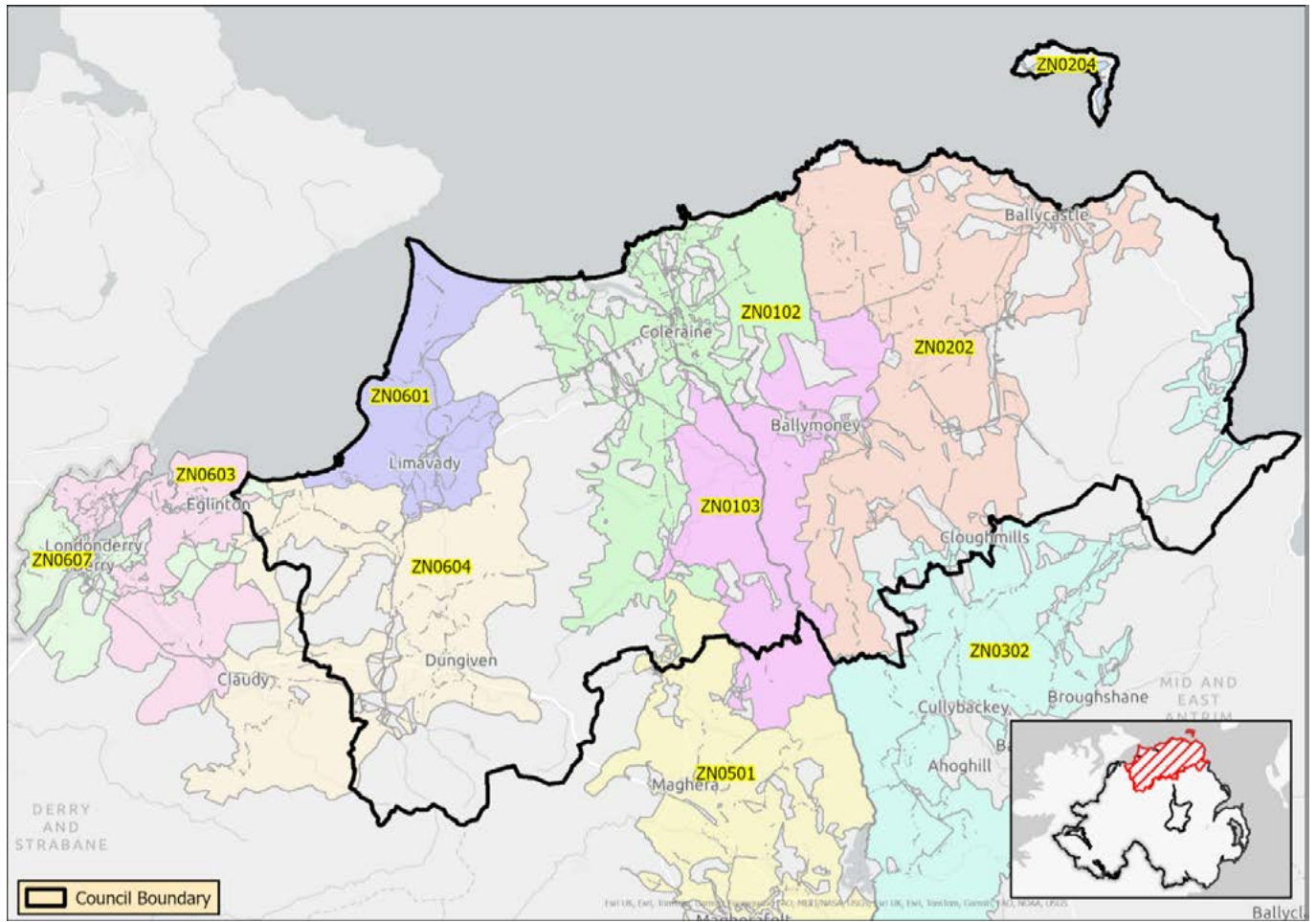
Watermains New - Lead Pipe Replacement Programme

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

# Appendix 3

## Causeway Coast and Glens Borough Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Causeway Coast and Glens Compliance	99.7%	99.8%	99.8%	99.9%	99.7%	99.8%	99.8%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0102	Ballinrees North	ZN0501	Moyola Magherafelt
ZN0103	Ballinrees South	ZN0601	Ballinrees Limavady
ZN0202	Altnahinch Bushmills	ZN0603	Carmoney Eglinton
ZN0204	Rathlin Island	ZN0604	Caugh Hill Dungiven
ZN0302	Dungonnell Glarryford	ZN0607	Corrody Derry



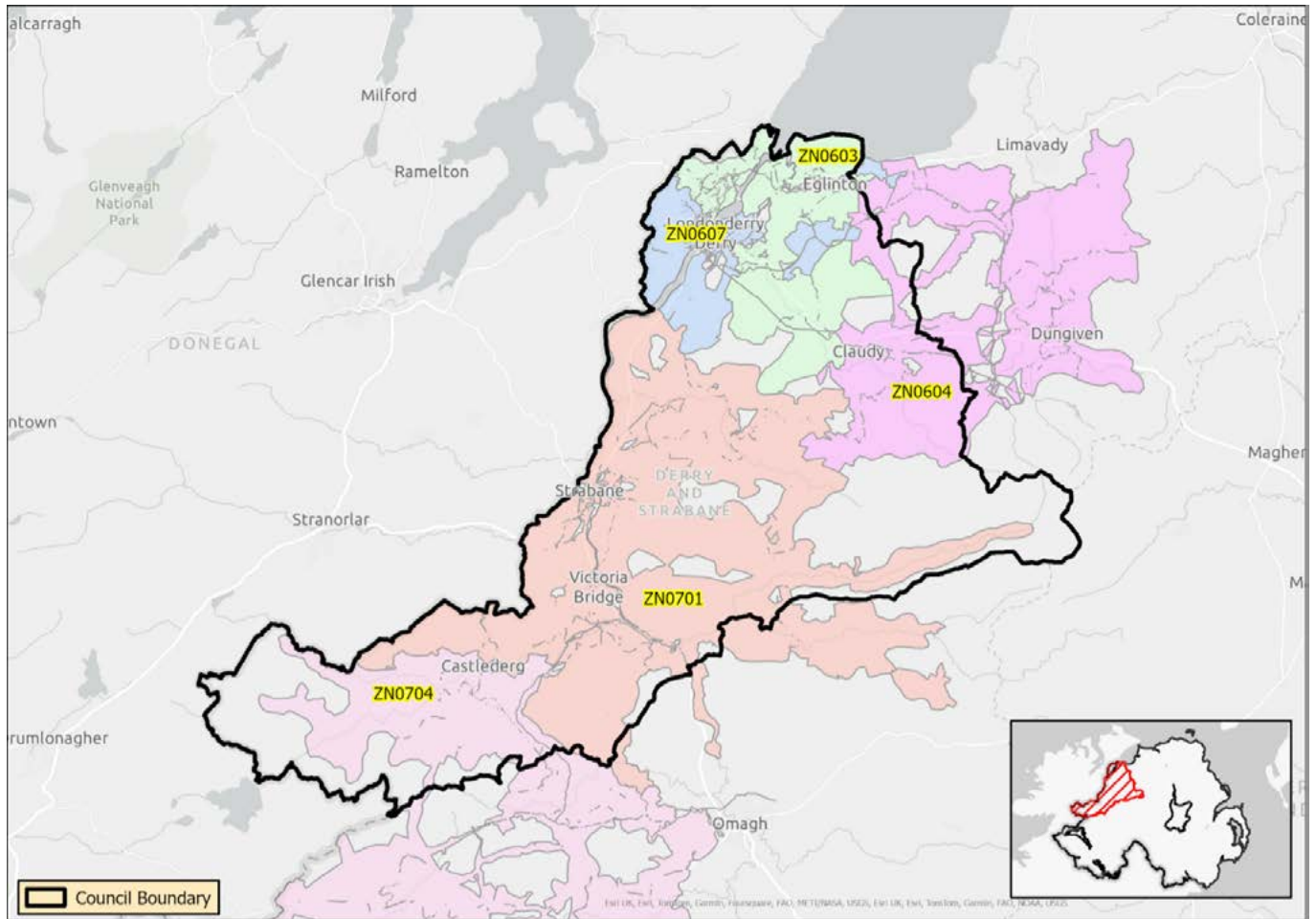
## Appendix 3

### 2023 water quality Capital Works Programmes affecting the council area:

Altnahinch Pilot Plant Study  
Altnahinch Treatability Improvements  
Antrim North WIIM 2.1 Work Package  
Backsyphonage at WTW  
Ballinrees WTW upgrade  
Caugh Hill Treatability Improvements  
Chlorine Station Base Maintenance  
Filter Media Trial Unit (Ballinrees Wtw)  
Leakage Work package 2  
PC21 WIIM Super work package 3- Central  
Pilot Plant Operations  
Preparation of Initial Work packages for PC21  
Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services  
Service Reservoir Inspection Programme - Electro Scanning Specialist Support  
SR Rehab Programme PC21 Year 2  
SR Rehab Programme PC21 Year 3  
SR Rehabilitation  
Water Efficiency and Innovation Support Services  
Watermains New - Lead Pipe Replacement Programme  
WIIM Phase 2 Ballinrees Limavady WP  
WTW Base Maintenance PC21 Year 1  
WTW Base Maintenance PC21 Year 2

# Appendix 3

## Derry City and Strabane District Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Derry City & Strabane Compliance	99.7%	99.8%	99.8%	99.9%	99.7%	99.7%	99.7%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0603	Carmony Eglinton	ZN0701	Derg Strabane
ZN0604	Caugh Hill Dungiven	ZN0704	Lough Bradan Drumquin
ZN0607	Corrody Derry		

## Appendix 3

### 2023 water quality Capital Works Programmes affecting the council area:

Backsyphonage at WTW

Carmoney Treatability Improvements

Chlorine Station Base Maintenance

Derg Treatability Improvements

Derg WTW MCPA PEO Undertakings

Leakage Work package 2

PC21 WIIM Super work package 3- Central

Pilot Plant Operations

Preparation of Initial Work packages for PC21

Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services

Regenerated WIIM WP 2022 C (BSG)

Service Reservoir Inspection Programme - Electro Scanning Specialist Support

SR Rehab Programme PC21 Year 1

SR Rehab Programme PC21 Year 2

SR Rehab Programme PC21 Year 3

SR Rehabilitation

Water Efficiency and Innovation Support Services

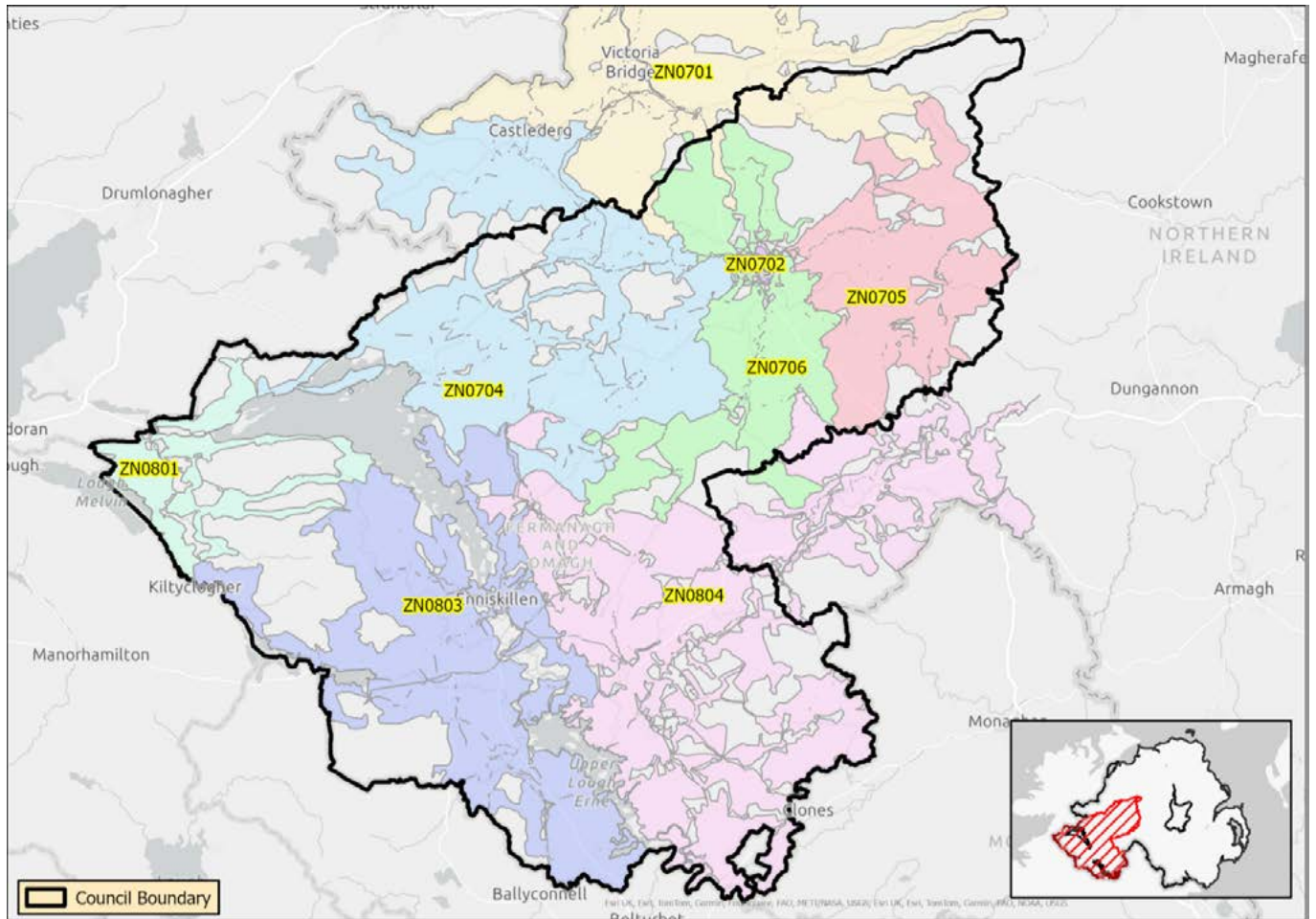
Watermains New - Lead Pipe Replacement Programme

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

# Appendix 3

## Fermanagh and Omagh District Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Fermanagh & Omagh Compliance	99.7%	99.8%	99.9%	99.9%	99.8%	99.9%	99.8%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0701	Derg Strabane	ZN0706	Lough Macrory Killyclogher
ZN0702	Glenhordial Omagh	ZN0801	Belleek Garrison
ZN0704	Lough Bradan Drumquin	ZN0803	Killyhevlin West
ZN0705	Lough Macrory Beragh	ZN0804	Killyhevlin East

# Appendix 3

## 2023 water quality Capital Works Programmes affecting the council area:

Backsyphonage at WTW

Belleek Treatability Improvements PC21

Chlorine Station Base Maintenance

Fermanagh North WIIM 2.1 Work Package

Glenhordial Treatability Improvements PC21

Killyhevin Wtw treatability recommended improvements.

Leakage Work package 2

Old Coach Road/Sessiagh Lane watermain replacement

OSEC Plant Replacement

PC21 Leakage Work package 1

Pilot Plant Operations

Preparation of Initial Work packages for PC21

Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services

Regenerated WIIM WP 2022 A (Mills)

Regenerated WIIM WP 2022 B (Campbells)

Regenerated WIIM WP 2022 C (BSG)

Service Reservoir Inspection Programme – Electro Scanning Specialist Support

SR Rehab Programme PC21 Year 1

SR Rehab Programme PC21 Year 2

SR Rehab Programme PC21 Year 3

SR Rehabilitation

Tyrone South WIIM 2.1 Work Package

Water Efficiency and Innovation Support Services

Watermains New - Lead Pipe Replacement Programme

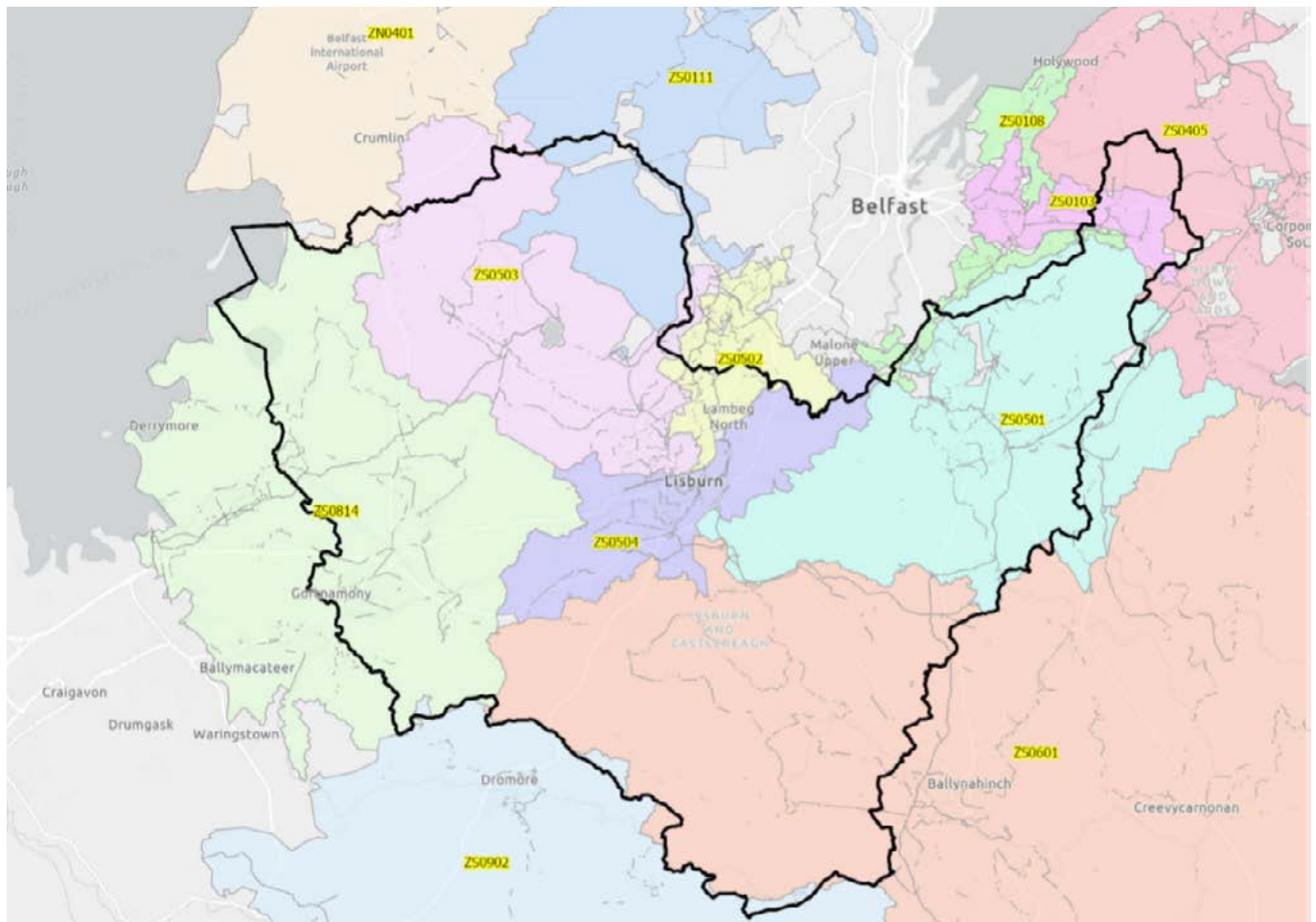
WIIM Western Super work package

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

# Appendix 3

## Lisburn and Castlereagh City Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Lisburn & Castlereagh Compliance	99.7%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0401	Dunore Point Antrim	ZS0502	Poleglass Dunmurry
ZS0103	Belfast Ballyhanwood	ZS0503	Forked Bridge Stoneyford
ZS0108	Belfast Purdysburn	ZS0504	Lisburn South
ZS0111	Dunore Point Hydepark	ZS0601	Drumaroad Ballynahinch
ZS0405	Drumaroad Ards West	ZS0814	Castor Bay Moira
ZS0501	Drumaroad Lisburn	ZS0902	Fofanny Dromore

## Appendix 3

### 2023 water quality Capital Works Programmes affecting the council area:

Backsyphonage at WTW

Castor Bay to Forked Bridge WPM Maintenance

Chlorine Station Base Maintenance

Clean Water Network Modelling 2021 to 2024

Craigavon WIIM 2.1 Work Package

Lurgan Moira WIIM 2.1 Work Package

Pilot Plant Operations

Preparation of Initial Work packages for PC21

Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services

Service Reservoir Inspection Programme - Electro Scanning Specialist Support

SR Rehab Programme PC21 Year 2

SR Rehab Programme PC21 Year 3

SR Rehabilitation

Water Efficiency and Innovation Support Services

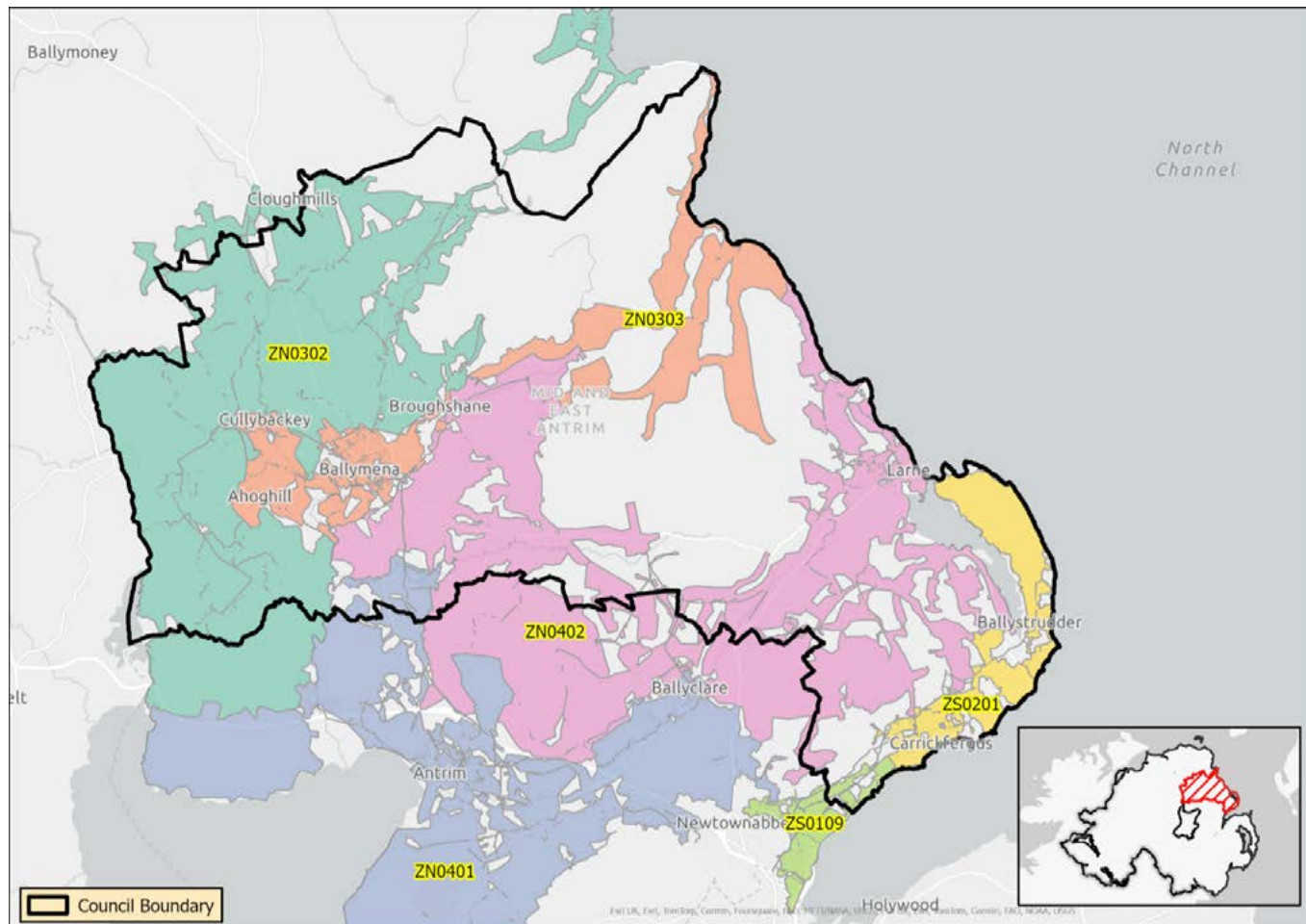
Watermains New - Lead Pipe Replacement Programme

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

# Appendix 3

## Mid and East Antrim Borough Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Mid & East Antrim Compliance	99.7%	99.9%	99.8%	100.0%	99.9%	99.9%	99.9%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0302	Dungonnell Garryford	ZN0402	Killylane Ballynure
ZN0303	Dunore Point Ballymena	ZS0109	Dorisland Whiteabbey
ZN0401	Dunore Point Antrim	ZS0201	Dorisland Carrick



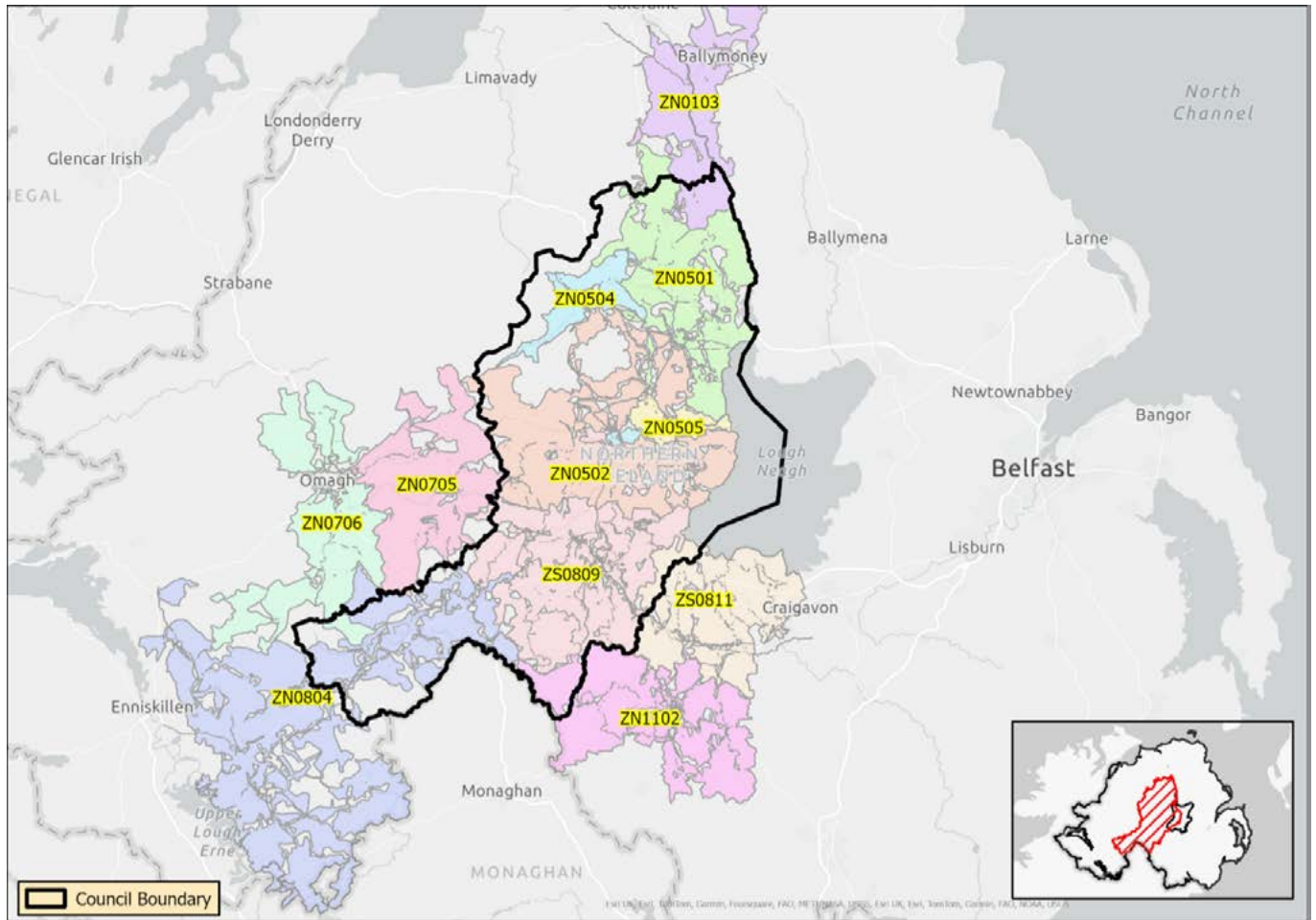
## Appendix 3

### 2023 water quality Capital Works Programmes affecting the council area:

Antrim North WIIM 2.1 Work Package  
Antrim South WIIM 2.1 Work Package  
Backsyphonage at WTW  
Chlorine Station Base Maintenance  
Dungonnell Treatability Improvements  
Eastern Super Work Package  
Leakage Work package 2  
OSEC Plant Replacement  
PC21 WIIM Super work package 3- Central  
Pilot Plant Operations  
Preparation of Initial Work packages for PC21  
Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services  
Regenerated WIIM WP 2022 C (BSG)  
Regenerated WIIM WP 2022 D (Nuline)  
Service Reservoir Inspection Programme – Electro Scanning Specialist Support  
SR Rehab Programme PC21 Year 1  
SR Rehab Programme PC21 Year 2  
SR Rehab Programme PC21 Year 3  
SR Rehabilitation  
Tuftarney SR Inlet and Outlet Pipework Rationalisation  
Water Efficiency and Innovation Support Services  
Watermains New - Lead Pipe Replacement Programme  
WIIM Western Super work package  
WTW Base Maintenance PC21 Year 1  
WTW Base Maintenance PC21 Year 2

# Appendix 3

## Mid Ulster District Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Mid Ulster Compliance	99.7%	99.9%	99.9%	99.9%	99.8%	99.9%	99.9%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0103	Ballinrees South	ZN0706	Lough Macrory Killyclogher
ZN0501	Moyola Magherafelt	ZN0804	Killyhevlin East
ZN0502	Lough Fea Cookstown	ZN1102	Seagahan Armagh
ZN0504	Moyola Unagh Mormeal	ZS0809	Castor Bay Dungannon
ZN0505	Moneymore	ZS0811	Castor Bay Portadown
ZN0705	Lough Macrory Beragh		

## Appendix 3

### 2023 water quality Capital Works Programmes affecting the council area:

Altinure Road Park Village

Antrim North WIIM 2.1 Work Package

Backsyphonage at WTW

Chlorine Station Base Maintenance

Craigavon WIIM 2.1 Work Package

Fermanagh North WIIM 2.1 Work Package

Leakage Work package 2

Lough Fea Treatability Improvements PC21

PC21 Leakage Work package 1

PC21 Leakage Work package 3

PC21 WIIM Super work package 3- Central

Pilot Plant Operations

Preparation of Initial Work packages for PC21

Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services

Regenerated WIIM WP 2022 B (Campbells)

Regenerated WIIM WP 2022 C (BSG)

Service Reservoir Inspection Programme - Electro Scanning Specialist Support

SR Rehab Programme PC21 Year 2

SR Rehab Programme PC21 Year 3

SR Rehabilitation

Tyrone South WIIM 2.1 Work Package

Water Efficiency and Innovation Support Services

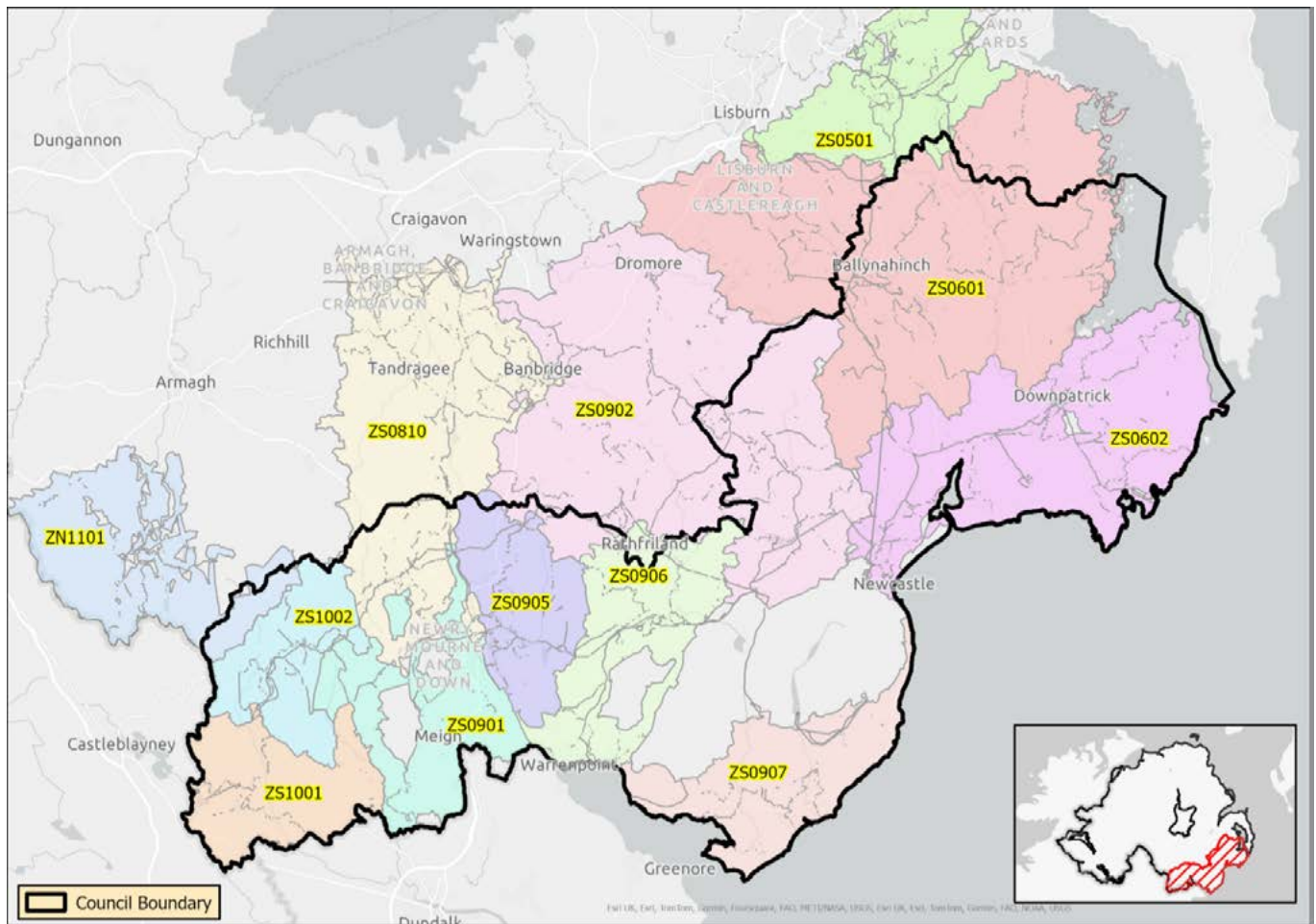
Watermains New - Lead Pipe Replacement Programme

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

# Appendix 3

## Newry, Mourne and Down District Council



### Percentage Compliance at Customer Tap (including Supply Points)

	Target	2018	2019	2020	2021	2022	2023
Northern Ireland Compliance	99.7%	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%
Newry, Mourne & Down Compliance	99.7%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%

### 2023 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN1101	Clay Lake Keady	ZS0902	Fofanny Dromore
ZS0501	Drumaroad Lisburn	ZS0905	Fofanny Newry
ZS0601	Drumaroad Ballynahinch	ZS0906	Fofanny Hilltown
ZS0602	Drumaroad Downpatrick	ZS0907	Fofanny Kilkeel
ZS0810	Castor Bay Tandragee	ZS1001	Carran Hill Crossmaglen
ZS0901	Castor Bay Newry West	ZS1002	Carran Hill Camly

## Appendix 3

### 2023 water quality Capital Works Programmes affecting the council area:

Backsyphonage at WTW

Carran Hill Treatability Improvements PC21

Chlorine Station Base Maintenance

Clean Water Network Modelling 2021 to 2024

Drumaroad Treatability Improvements

Eastern Super Work Package

Fofanny Treatability Improvements PC21

PC21 Leakage Work package 1

Pilot Plant Operations

Preparation of Initial Work Packages for PC21

Professional Services - PC21 Watermains Rehabilitation, New and Replacement and First Time Services

Service Reservoir Inspection Programme – Electro Scanning Specialist Support

SR Bypass Schemes

SR Rehab Programme PC21 Year 1

SR Rehab Programme PC21 Year 2

SR Rehab Programme PC21 Year 3

SR Rehabilitation

Water Efficiency and Innovation Support Services

Watermains New - Lead Pipe Replacement Programme

WIIM 1 Phase 2 Carran Hill Crossmaglen WP

WIIM 2.2 Foffanny South Work Package

WP101 Newry Phase2

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

# Appendix 4

## Water Quality Events

### Serious Drinking Water Quality Events in 2023

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
31/05/23 - 19/06/23	Northern Ireland (1.9 million)	High water demand in the network due to a period of hot and dry weather. A NI Water Category 2 Incident was declared. At its peak, water usage was approximately 20% higher than normal. Alternative water supplies including asset to asset tankering, was required to maintain sufficiency of supply to customers.	All
26/07/23 - 15/12/23	Ballygowan SR (8,408 population)	A high level of consumer contacts regarding the taste and odour of the mains water supply in the area supplied by Ballygowan SR when it was returned to service following refurbishment. DWI issued questionnaires to consumers in relation to this event. The investigation is ongoing.	Ards and North Down Borough & Newry, Mourne & Down District
31/08/23 - 05/09/23	Westland SR (22,758 population)	The accidental closing of an outlet valve at Westland SR caused a loss of supply in North Belfast and Belfast City Centre. There were related water quality issues, predominantly discoloured water.	Belfast City
08/09/23 - 09/10/23	Moyola WTW (58,347 population)	A high level of consumer contacts regarding the taste and odour of the mains water supply and contraventions of the taste and odour parameters in the final water from Moyola WTW. As a follow-up to this event, DWI audited the controls in place to manage the blue/green algae risk in October 2023 and also audited Moyola WTW in January 2024. The investigation is ongoing.	Mid Ulster District
July 2019 - May 2023	Lough Bradan WTW (48,011 population)	Orthophosphoric acid (OP) is dosed at Lough Bradan WTW for plumbosolvency control. During this period, the dosing of OP was consistently below the required level and there were periods when no OP was dosed at all. However, no lead contraventions were reported. This event was notified in April 2023.	Fermanagh and Omagh District

# Appendix 4

## Serious Drinking Water Quality Events in 2023

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
19/01/23 - 23/01/23	Seagahan WTW (37,673 population)	A contravention of the aluminium parameter occurred in the works final water. There were no treatment issues identified at this time. Following an investigation, NI Water was unable to identify the cause of the contravention.	Armagh City, Banbridge and Craigavon Borough
22/01/23 - 24/01/23	Killylane WTW (48,323 population)	Elevated levels of aluminium, iron and turbidity occurred in the works final water due to treatment issues caused by a chemical dosing failure. Killylane WTW is included in DWI's Audit Schedule for 2024/25.	Mid and East Antrim Borough
09/02/23 - 13/02/23	Creevery Road, Antrim (21 properties)	Coliform bacteria contraventions recurred at four properties. On the advice of the Public Health Agency (PHA), "Boil Water before Use until Further Notice" advice was issued to four properties. However, 21 properties were potentially affected. The contraventions occurred after mains rehabilitation work in the area. DWI intends issuing a Warning Letter to NI Water in relation to this event.	Mid and East Antrim Borough
27/02/23 - 14/03/23	Drumaroad WTW (13,815 population)	Contraventions of the aluminium parameter above the Health Notification Values occurred at Derryhill and Tullybrannigan South SRs which are both supplied by Drumaroad WTW. There were no treatment issues identified at this time. DWI has enforcement in place to deal with this issue by April 2025.	Ards and North Down Borough & Newry, Mourne and Down District
06/03/23 - 14/03/23	Dorisland WTW (138,218 population)	A contravention of the aluminium parameter above the Health Notification Value occurred in the works final water. There were no treatment issues identified at this time. Following an investigation, NI Water was unable to identify the cause of the contravention.	Antrim and Newtownabbey Borough, Belfast City & Mid and East Antrim Borough
03/05/23 - 04/05/23	Clay lake WTW (9,857 population)	A problem with the sodium hypochlorite dosing system led to elevated chlorine levels above the Health Notification Value at Clay Lake WTW and in the related distribution system.	Armagh City, Banbridge and Craigavon Borough

# Appendix 4

## Serious Drinking Water Quality Events in 2023

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
09/05/23 - 17/05/23	Derg WTW	A contravention of the individual pesticide standard for MCPA occurred in the works final water. NI Water carried out a major upgrade to this works following DWI issuing a Regulation 31(4) Notice in respect of pesticide contraventions. However, the new treatment process was only partially operational at the time of this contravention. The new treatment process is now fully operational. The risk for MCPA exceedances, is due to the use of MCPA within the catchment area.	Derry City and Strabane District & Fermanagh and Omagh District
22/05/23 - 23/05/23	Forked Bridge WTW (92,012 population)	Contraventions of the aluminium and turbidity parameters occurred in the works final water. NI Water identified an issue with the sample point as the probable cause of the contraventions. Resamples taken were satisfactory.	Armagh City, Banbridge and Craigavon Borough; Belfast City; Lisburn and Castlereagh City; Mid Ulster District; & Newry, Mourne and Down District
04/06/23 - 25/08/23	Ballinrees WTW (118,779 population)	An earthy odour was detected in the works final water. There is a history of taste & odour issues in the Ballinrees final water. DWI has an enforcement in place to deal with this issue by December 2024. NI Water has undertaken a major upgrade of this works in response to this Notice.	Causeway Coast and Glens Borough & Derry City and Strabane District
24/05/23 - 30/05/23	Carmoney WTW (55,858 population)	A contravention of the individual pesticide standard for MCPA occurred in the works final water. Carmoney WTW has pesticide removal treatment in place which is normally effective at reducing MCPA levels to below the regulatory limit. The risk for MCPA exceedances, is due to the use of MCPA within the catchment area.	Derry City and Strabane District
26/06/23 - 13/11/23	Caugh Hill WTW (79,316 population)	Contraventions of the Total Trihalomethanes (THMs) parameter occurred in the works final water and the related distribution system. The treatment process was not optimised for organics removal at the time of this event. Improvement work in relation to THMs at Caugh Hill WTW is included in the PC21 work plan.	Causeway Coast and Glens Borough & Derry City and Strabane District



# Appendix 4

## Serious Drinking Water Quality Events in 2023

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
27/06/23 - 27/07/23	Lakelands, Craigavon (3 properties)	Contraventions of the odour parameter occurred in three properties at Lakelands, Craigavon. The most probable cause was due to heating oil contamination in the ground within the customer properties, affecting the water quality in private supply pipes. The affected consumers were notified of the issue. The quality of the public drinking water supply was satisfactory.	Armagh City, Banbridge and Craigavon Borough
03/07/23 - 06/07/23	Killylane WTW (48,323 population)	A contravention of the iron parameter above the Health Notification Value occurred in the works final water. There were no treatment issues identified at this time. Following an investigation, NI Water was unable to identify the cause of the contravention. Killylane WTW is included in DWI's Audit Schedule for 2024/25.	Mid and East Antrim Borough
02/08/23 - 29/08/23	Carmoney WTW (55,858 population)	Contraventions of the Total Trihalomethanes (THMs) parameter occurred due to insufficient organics removal during water treatment and the related distribution system. Improvement work in relation to THMs at Carmoney WTW is included in the PC21 work plan.	Derry City and Strabane District
09/08/23 - 15/08/23	Tullydagan Road, Lurgan (5 Properties)	Coliform bacteria contraventions recurred at four properties. On the advice of the PHA, "Boil Water before Use until Further Notice" advice was issued to two properties. The contraventions occurred after mains rehabilitation work in the area. The precise cause of the bacteriological contraventions was undetermined, but it is probable that cross contamination from a private water supply was at least part of the reason. The contraventions were not reflective of the water quality in the overall supply area.	Armagh City, Banbridge and Craigavon Borough

# Appendix 4

## Serious Drinking Water Quality Events in 2023

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
14/08/23 - 26/10/23	Ballinrees WTW supply through Glenlough SR (17,951 population)	Contraventions of the Total Trihalomethanes (THMs) parameter occurred at Glenlough SR and in the related distribution system. DWI has enforcement in place to deal with taste & odour and MCPA contraventions at Ballinrees WTW by December 2024. The additional treatment being installed should also reduce THM levels in the distribution system.	Causeway Coast and Glens Borough
21/08/23 - 29/08/23	Keady Road, Armagh (2 properties)	Coliform bacteria contraventions recurred at two properties. On the advice of the PHA, "Boil Water before Use until Further Notice" advice was issued to two properties. The contraventions occurred after mains rehabilitation work in the area. An operational networks audit is included in DWI's Audit Schedule for 2024/25.	Armagh City, Banbridge and Craigavon Borough
17/09/23 - 22/09/23	Cullyrammer Road, Garvagh (3 properties)	Coliform bacteria contraventions recurred at three properties. On the advice of the PHA, "Boil Water before Use until Further Notice" advice was issued to the four properties. The contraventions occurred after operational activity to repair a burst main.	Causeway Coast and Glens Borough
28/09/23 - 06/10/23	Station Road, Ballykelly (5 properties)	Coliform bacteria contraventions recurred at two properties. On the advice of the PHA, "Boil Water before Use until Further Notice" advice was issued to four properties. The contraventions occurred after operational activity to repair a leak. The most probable cause for this event was back siphonage from one of the affected properties.	Causeway Coast and Glens Borough
31/10/23 - 30/11/23	Inniskeeragh Cottages, Boa Island (8 properties)	A sample taken in relation to a consumer complaint was above the Health Notification Value for odour. Resamples were also unsatisfactory for odour. On the advice of PHA, "Do Not Use the Water from Your Taps" was issued to eight properties. The most probable cause was due to heating oil contamination in the ground within a private development, affecting the water quality in a private supply pipe. The quality of the public drinking water supply was satisfactory.	Fermanagh and Omagh District

## Appendix 4

### Serious Drinking Water Quality Events in 2023

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
15/11/23 - 17/11/23	Altnahinch WTW (33,712 population)	Contamination of clarifiers by galvanising spray paint. The works was shutdown as a precaution. There were no issues with treatment post restart. Tankering and rezoning were used to maintain customer supplies whilst the treatment works was shutdown. Water Quality samples taken in relation to this event were satisfactory.	Causeway Coast and Glens Borough

After investigations during the reporting period, there were also five events categorised by DWI as “Minor”, and seventeen events categorised as “Not Significant”.

# Appendix 5

## The Water Supply (Water Fittings) Regulations (NI) 2009 Compliance Policy

### Number of staff involved in compliance & enforcement of Water Regulations

NI Water employs a Regulations Team Manager, supported by a team of four customer facing Water Regulation Inspectors located across Northern Ireland along with a Senior Support Officer and two Support Water Regulations Inspectors and two Support Officers in an administrative capacity. All under the direction of a Senior Compliance manager and Head of Department.

Description	Number
Spending more than 75% of time	10
Spending between 25% and 50% of time	1
Spending between 0% and 5% of time	1

Water Fittings Regulation Inspection staff are required to have passed the City and Guilds (C&G) qualification in Water Fittings Regulations for Compliance staff with any new inductees not already qualified obliged to undertake and pass same.

Additional specialist training to meet NI Water operational requirements may also be provided. This may comprise:

- Reduced Pressure Zone devices (RPZ) - essential to maintain valid oversight of the RPZ approval process and permit sufficient coverage by NI Water in face of increased installation rates.
- Criminal investigation procedures course - essential to ensure safeguard enforcement in cases of non-compliance.

### Inspections & Infringements (Other than those arising from Notification)

Description	Number (by calendar year)				
	2019	2020	2021	2022	2023
Total number of Domestic and Non-Domestic Inspections	1,279	709	569	410	926
Total number of active Contraventions recorded in reporting year	1,144	510	446	948	2723*
Total number of closed Contraventions in reporting year	896	381	286	1,102	1573*
Total Number of outstanding contraventions in reporting year	248	129	160	469	1065*

\* Differential in total due to allowed rectification period overlapping reporting year.

## Appendix 5

Contraventions found on all property types can vary greatly. Typical examples are listed below:

- Water fittings non-compliant with Regulation 4.
- Cross connections between public and private water supplies, (Bore Wells linked to NI Water supplies within private premises).
- RPZ installations.
- Hose Union taps, Agricultural troughs. Back Siphonage/Cross connection protection.
- Alternative/Rainwater Harvesting systems not being installed in compliance with British Standards and the Regulations.
- Storage cisterns having the wrong type of Air Gap fitted.
- Inadequate insulation against cold and heat, i.e., frost protection or heat transfer. Most commonly inadequate or no insulation or insufficient spacing between pipework.
- Overflows running to waste in non-visual areas.
- Dead legs on pipework i.e., redundant dead-end pipes.
- The requirement to install servicing valves.
- Lack of labelling of pipework
- Shallow service pipes providing insufficient protection from frost protection.
- Poor workmanship – pipework installed in unworkmanlike fashion.

### Enforcement

As a result of voluntary compliance no enforcement action was taken by NI Water during 2023.

### Notifications

In most cases, customers must notify NI Water in advance of installing or making changes to the water plumbing systems within their premises. Owners, occupiers, and plumbing installers must obtain approval from NI Water by giving advance notice in writing of their intentions. Advance notification forms for this purpose can be obtained from the NI Water website along with the list of work that should not commence without advance notification. Where notification is received, NI Water will not unreasonably withhold consent for any proposed work. Consent is also automatically conferred where the applicant does not hear from NI Water within 10 working days of receipt.

A total of 48 notifications relating to aspects of water fittings were received during the 2023 calendar year, all of which were approved.

### Disputes

No formal disputes were referred to arbitration in the reporting year.

### Relaxations

No relaxations were applied for in the reporting year.

## Appendix 5

### Attributed to water quality incidents and NI Water observations

In addition to proactive inspections, NI Water's Water Fittings Regulation team also undertook reactive inspections because of water quality concerns following sample failures requests for assistance from NI Water staff and customers.

Month	Property Address
Feb-23	Cornfield Care Centre, 51 Seacoast Road, Limavady
Apr-23	24 Forest Drive, Ballykelly
May-23	2 Greer Park Avenue, Belfast
Jun-23	181-I Stranmillis Road, Belfast
Jun-23	137 Main Street, Enniskillen
Jun-23	131 Drumenny Road, Cookstown
Jul-23	115 Lakelands, Craigavon
Jul-23	8 Redwood Park, Coleraine
Jul-23	20 Redwood Park, Coleraine
Jul-23	113 Lakelands, Craigavon
Aug-23	20 Forge Drive, Ballygowan
Aug-23	736 Saintfield Road, Carryduff
Aug-23	10 Thralcot Lane, Carrickfergus
Aug-23	74 Cornakinnegar Road, Craigavon
Aug-23	15 Tullydagan Road, Lurgan
Aug-23	167 Keady Road, Keady
Aug-23	167A Keady Road, Keady
Sept-23	44 King Street, Magherafelt
Sept-23	38 Cullyrammer Road, Garvagh
Sept-23	54 Cullyrammer Road, Garvagh
Sept-23	118A Coolkeeran Road, Ballymoney
Sept-23	118B Coolkeeran Road, Ballymoney
Sept-23	164 Clanabogan Road, Clanabogan
Sept-23	118 Coolkeeran Road, Ballymoney
Sept-23	61 Cullyrammer Road, Garvagh
Oct-23	41 Station Road, Ballykelly
Oct-23	35 Koram Road, Strabane
Oct-23	24 Lisheegan Road, Ballymena
Nov-23	24A Lisheegan Road, Ballymena
Nov-23	24B Lisheegan Road, Ballymena
Nov-23	24C Lisheegan Road, Ballymena
Nov-23	32 Boconnell Lane, Craigavon
Nov-23	3 Inniskeeragh, Kesh
Nov-23	207 Concession Road, Newry
Nov-23	64 Primrose Park, Sion Mills

Resultant action taken by NI Water comprises reports are submitted to NI Water scientific and operational teams with copies also made available to the Regulator. Customers are required to take remedial action to in line with the compliance process.

# Appendix 6

## Glossary of Technical Terms

<b>Abstraction Point</b>	The point at which water is abstracted from a lake, reservoir, river or ground water source for the purposes of drinking water production
<b>Aesthetic</b>	Associated with the senses of taste, smell, and sight
<b>Authorised Supply Point</b>	A sampling point within the distribution system authorised by the DWI for certain parameters, because the results of the analysis of such samples are unlikely to differ in any material respect from the results of the analysis of samples taken from customer taps
<b>Catchment</b>	The area of land that drains into a watercourse
<b>Coliform bacteria</b>	A group of bacteria that may be faecal or environmental in origin
<b>Compliance assessment</b>	A comparison made by the DWI of data (gathered by NI Water) against standards and other regulatory requirements
<b>Contravention</b>	A breach of the regulatory requirement
<b>Cryptosporidiosis</b>	The illness produced by infection with <i>Cryptosporidium</i>
<b>Cryptosporidium</b>	A protozoan parasite
<b>Determination</b>	A single analytical result for a specific parameter
<b>Distribution systems</b>	NI Water's network of mains, pipes, pumping stations and service reservoirs through which treated water is conveyed to customers
<b>DWI</b>	Northern Ireland Drinking Water Inspectorate - has an independent responsibility to audit drinking water quality compliance against the standards set in the Regulations
<b>DWSP</b>	'Drinking Water Safety Plan' Based on a comprehensive risk assessment and risk management approach to all the steps in a water supply chain
<b>EO</b>	'Enforcement Order' - third stage in DWI enforcement process
<b>Event</b>	A situation affecting or the potential to affect drinking water quality
<b>Exceedance</b>	Synonym for contravention (see above)
<b>E. Coli</b>	A sub-group of coliforms, almost exclusively faecal in origin
<b>Filtration</b>	The separation of suspended particulate matter from a fluid
<b>GPS</b>	Global Positioning System - a satellite-based location system that gives an accurate record of position
<b>Groundwater</b>	Water from aquifers or other underground sources
<b>Hydrogen ion</b>	A measure of the acidity or basicity related to the concentration of the hydrogen ion (also referred to as pH)
<b>Incident</b>	An event where there has been a demonstrable deterioration in the quality of drinking water
<b>Investment programme</b>	Investment in improvement works to water treatment works and distribution systems
<b>LIMS</b>	Laboratory Information Management System - the computer system used by NI Water to record and audit the results of the hundreds of thousands of parameters analysed each year
<b>Mains rehabilitation</b>	Restoration or replacement of water mains pipework to a proper condition
<b>MCPA</b>	MCPA is a selective hormone-type herbicide, which is absorbed by the leaves and to some degree the roots

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<b>Mean Zonal Compliance</b>	The former assessment of water quality at a parameter level based on water supply zones
<b>Microbiological</b>	Associated with the study of microbes
<b>m<sup>3</sup>/d</b>	Cubic metres per day
<b>mg/l</b>	Milligrams per litre
<b>µg/l</b>	Micrograms per litre
<b>ml</b>	Millilitre
<b>MI/d</b>	Megalitres per day (one MI/d is equivalent to 1,000 m <sup>3</sup> /d or 220,000 gallon/d)
<b>Oocyst</b>	The resistant form in which <i>Cryptosporidium</i> occurs in the environment, and which is capable of causing infection
<b>Orthophosphoric acid</b>	A chemical dosed in low concentrations at water treatment works to minimise the uptake of lead from old pipework into customer water
<b>PAHs</b>	A group of organic compounds known as polycyclic aromatic hydrocarbons, comprising, for the purposes of the Regulations, four substances: benzo(b)fluoranthene, benzo(k)fluoranthene benzo(ghi)perylene, and indeno (1,2,3-cd) pyrene
<b>Parameter</b>	A parameter is any substance, organism, or property listed in the regulations
<b>Pathogen</b>	An organism that causes disease
<b>PCV</b>	See 'Prescribed concentration or value'
<b>PEO</b>	'Provisional Enforcement Order' – second stage in DWI enforcement process
<b>Pesticides</b>	Any fungicide, herbicide or insecticide or related product (excluding medicines) used for the control of pests or diseases
<b>PHA</b>	The Public Health Agency works to initiate, stimulate, develop, and support health promotion
<b>Plumbosolvency</b>	The tendency for lead to dissolve in water
<b>Prescribed Concentration or Value</b>	The numerical value assigned to water quality standards (PCV), defining the maximum or minimum legal concentration or value of a parameter
<b>Protozoan parasites</b>	A single celled organism that can only survive by infecting a host
<b>Public register</b>	The information made available by NI Water to the public as required by regulation 38 in the Regulations
<b>Regulations</b>	The Water Supply (Water Quality) Regulations (Northern Ireland) 2017
<b>Remedial action</b>	Action taken to improve a situation
<b>RPZs</b>	Reduced Pressurised Zone Valve – a type of backflow prevention device
<b>SCaMP NI</b>	Sustainable Catchment Management Planning Northern Ireland
<b>Service reservoir (SR)</b>	A water tower, tank, or other reservoir used for the storage of treated water within the distribution system
<b>SIC Code</b>	Standard Industrial Classification Code – used for Water Fittings Regulations
<b>Surface water</b>	Water from rivers, impounding reservoirs, or other surface water sources
<b>Technical audit</b>	The means of checking by the DWI that NI Water is complying with its statutory obligations
<b>Toxicology</b>	The study of the health effects of substances



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<b>Treated water</b>	Water treated for use for domestic purposes as defined in the Regulations
<b>Trihalomethanes (THMs)</b>	A group of organic substances comprising, for the purposes of the Regulations, four substances: trichloromethane (also known as chloroform), dichlorobromomethane, dibromochloromethane, and tribromomethane (also known as bromoform)
<b>UKAS</b>	The sole national accreditation body recognized by the UK government to assess, against internationally agreed standards, organisations that provide certification, testing, inspection, and calibration services
<b>Utility Regulator</b>	The Northern Ireland Authority for Utility Regulation (NIAUR)
<b>WDPD</b>	DfI Water and Drainage Policy Division. Deemed to be the Regulator for all activities associated with the Water Supply (Water Fittings) Regulations (NI) 2009
<b>WRAS</b>	The Water Regulation Advisory Scheme. A list of Standard Industrial Classification codes with related fluid categories used to define categories of non-domestic properties
<b>Water Regulations</b>	The Water Supply (Water Fittings) Regulations (NI) 2009
<b>Water Safety Plan</b>	A means of ensuring that a water supply is safe for human consumption based on a comprehensive risk assessment and risk management approach to all the steps in a water supply chain from catchment to tap
<b>Water supply zone (Zone)</b>	The basic unit of supply for establishing sampling frequencies, compliance with standards and information to be made publicly available
<b>Website</b>	Location of information on the Internet. NI Water's website is: <a href="http://www.niwater.com">www.niwater.com</a>
<b>Weed-wiping</b>	Weed treatment method wiping the top of weeds using a roller or wicks infused with pesticide
<b>Wholesomeness</b>	A concept of water quality that is defined by reference to standards and other requirements set out in the Regulations

