niwater

Delivering what matters

DRINKING WATER QUALITY

ANNUAL REPORT

2024

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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 2024, 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 2024 calendar year was 99.98%, above the Price Control 2021-2027 (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 very high levels of algal growth in Lough Neagh over 2024 again. There is a continuing 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. Additional extensive monitoring to assure and inform our customers has now also been put in place. Further information can be accessed at Lough Neagh Blue-Green Algae (**niwater.com**).

At NI Water, we recognise that protecting water quality begins long before it reaches our treatment works. That's why we continue to prioritise catchment management and nature-based solutions through our Sustainable Catchment Area Management Programme. By working with stakeholders, landowners and local communities, we aim to improve water quality at source, reduce reliance on carbon-intensive treatment processes, and protect the natural environment. From restoring peatlands and enhancing biodiversity to supporting farmers in adopting better land practices, we're leading by example on the land we manage and championing collaboration on the land we don't. These efforts not only improve raw water quality but also deliver wider environmental benefits including carbon sequestration, flood mitigation and habitat restoration.

Our partnerships are fundamental to delivering meaningful, lasting change. We're proud to be a lead partner in ambitious cross-border and local initiatives such as the Forever Lough Neagh and Forever Mournes partnerships, as well as the €32m WEST and €7.5m Protecting Shared Waters PEACEPLUS projects. Together, these projects aim to address the root causes of pollution, restore key habitats and build resilience in our water systems. Our commitment extends from upland peatland restoration to large-scale woodland planting and pioneering conservation grazing initiatives. These collective actions reflect a forward-thinking, sustainable approach to water stewardship that protects our most precious resource for future generations.

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 2024, 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 (DWI). 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. United Kingdom Accreditation Service (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	2019	2020	2021	2022	2023	2024
% Overall compliance with drinking water regulations	99.90%	99.94%	99.88%	99.91%	99.92%	99.88%
% Compliance at customer tap (including supply points)	99.84%	99.91%	99.82%	99.88%	99.88%	99.87%
% Iron compliance at customer tap	98.89%	99.56%	99.35%	99.15%	99.71%	99.02%
% 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/

Lough Neagh and Blue-Green Algae

Raw water is drawn from Lough Neagh to supply our Dunore Point, Moyola, and Castor Bay water treatment works. These works supply around 40% of the population of NI. This includes homes and business in locations across much of Northern Ireland such as Portadown, Antrim, parts of Belfast and parts of Newry.

Drinking water supplied from the water treatment works which use Lough Neagh as their raw water sources are designed with the potential for algae to be present and robust treatment processes are in place to manage this effectively. NI Water's treatment works use an evidence based, multi-barrier treatment approach to ensure that water is safe to drink at the customer tap. This means that we gather evidence on raw water from Lough Neagh; this evidence can take the form of e.g. raw water colour, raw water algae and raw water cyanobacteria. We use this evidence to design, operate and optimise our treatment works, using appropriate treatment barriers such as filters, activated carbon and chlorine to produce good clean safe drinking water.

The public is urged to remain vigilant and take extra care with blue-green algae if visiting Lough Neagh during the summer. The advice from DAERA is to stay away from the Lough if you think blue-green algae is present as direct contact can be harmful to people and animals. Further instruction is available in this DAERA fact sheet "Look out for Harmful Algal Blooms (daera-ni.gov.uk)"

What is Blue-Green Algae?
Blue-green algae is an overgrowth of a type of bacteria in a water body that could affect water quality and aquatic life. It can produce several toxins that may cause harm to people, animals, and the local environment. It can exist alongside many other forms of non-harmful algae.

Blooms can look green, blue-green, or greenish brown. Scums can form along shorelines and look like paint, mousse, or small clumps.

Potentially any inland or coastal waterway can be affected so people are urged to be vigilant and take extra care if they spot what may appear to be blue-green algae.

Does Blue-Green Algae affect the taste of Drinking Water?
Blue-green algae (cyanobacteria), (similar to other algae species) can produce volatile organic compounds such as Geosmin and Methyl-Isoborneol (MIB). These organic compounds can give an earthy or musty smell and taste to water. Geosmin and MIB are also commonly found in soil and foods such as beetroot, 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, (equivalent to 1 teaspoon in 200 Olympic swimming pools), some people can still detect them.

Who is responsible for Lough Neagh?
The Northern Ireland Environment Agency (NIEA) is responsible for the management of the water quality in the Lough, and the work being undertaken to reduce the risk for blue-green algae blooms.

We (NI Water) are working with DAERA (Department of Agriculture, Environment and Rural Affairs) and NIEA (Northern Ireland Environment Agency) in the expectation that blooms will reoccur until nutrient levels are reduced.

For queries on Blue-Green Algae please contact the lead agency NIEA.

Protecting Our Customers

Lead Pipework Replacement Programme

The NI Water lead strategy sets out NI Water's approach to the management 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 will be a combination of two strands, as summarised below:

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

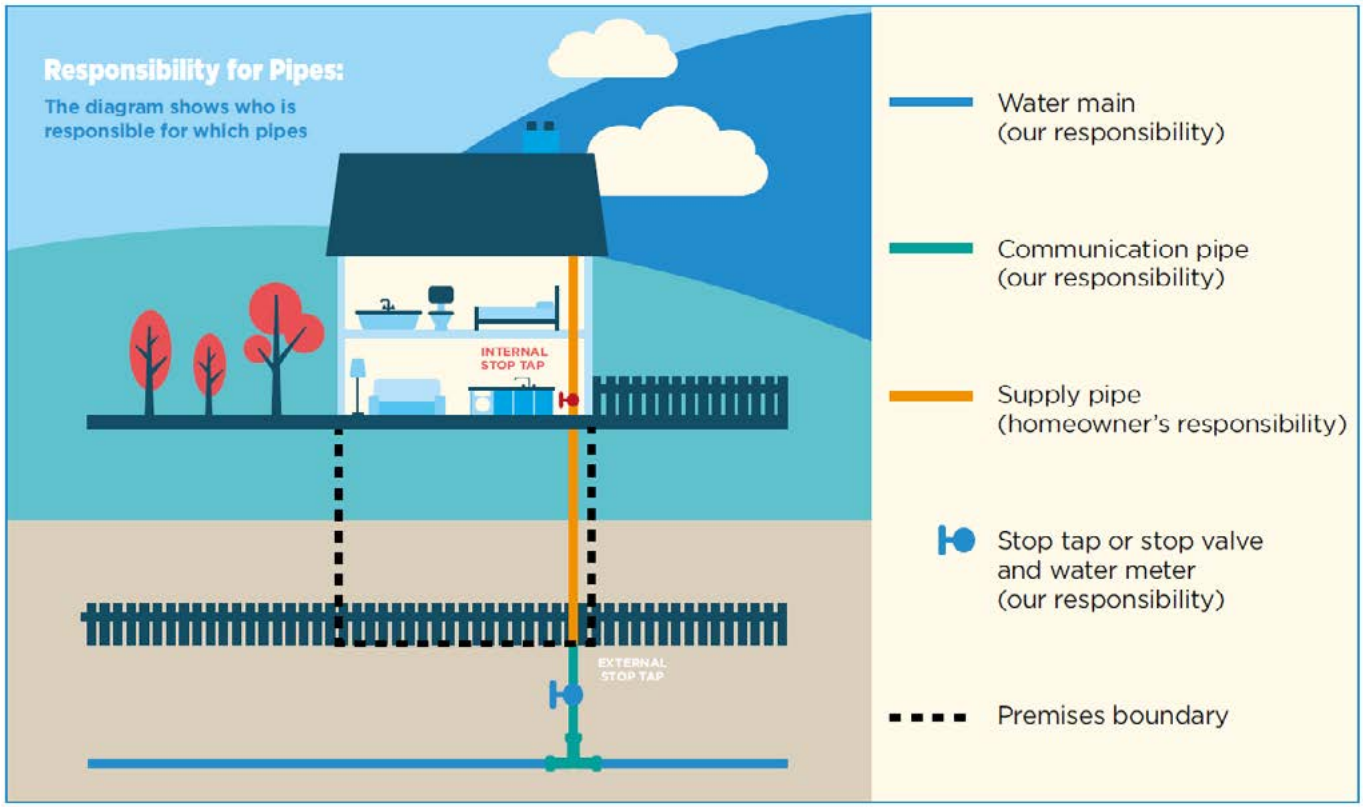
NI Water has been carrying out lead pipe replacements for a number of years under the following programmes of work:

- 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 pipes as part of Watermains Rehabilitation programme
- Customer Requested Lead Pipe Replacement - Proactively 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 pipes identified through the random lead sampling program

In the PC21 price control period so far, NI Water has replaced nearly 9,700 lead service pipes and is on track to meet its target of 11,064 for the period.

These programmes of replacement have 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



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.

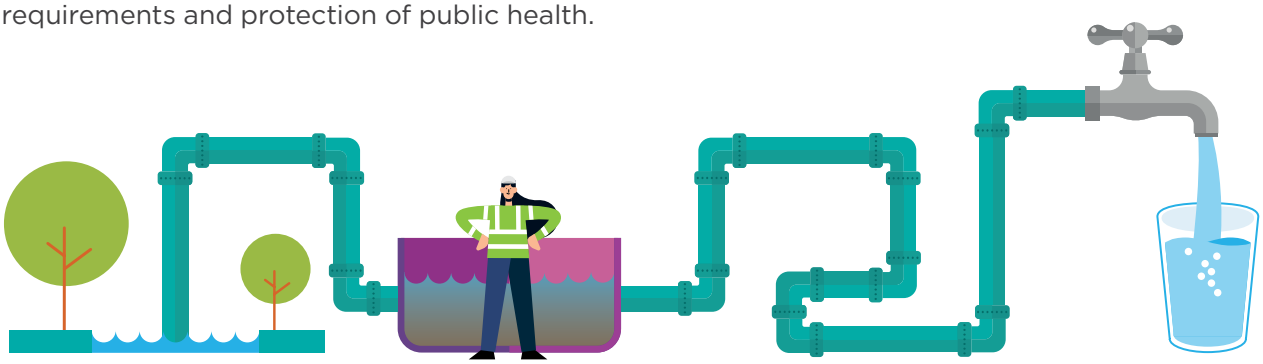
The Water Industry has adopted the DWSP approach to risk management from the raw water source, through water treatment, distribution and to our customer's taps. NI Water has put in place DWSPs for all of our drinking water supply systems to identify hazards, assess risks which could potentially threaten 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, College of Agriculture, Food and Rural Enterprise (CAFRE) and other Non-Governmental Organisations (NGOs) 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.



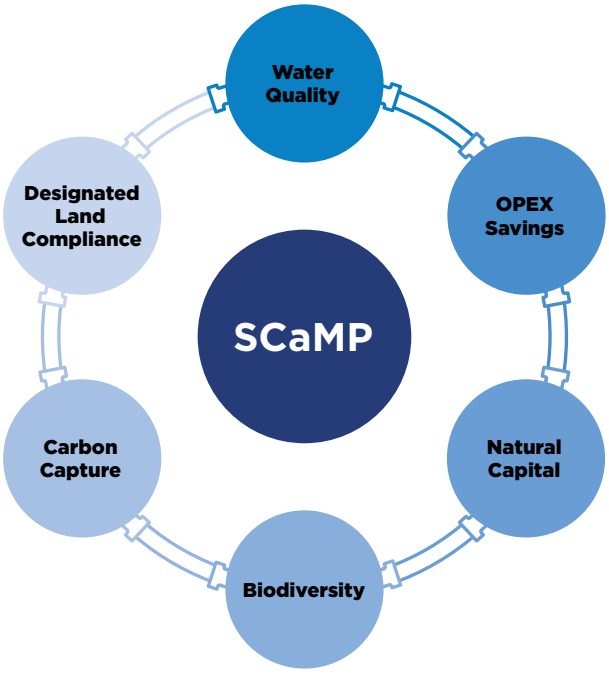
SOURCE TREATMENT DISTRIBUTION CONSUMER TAP

Sustainable Catchment Management Programme (SCaMPNI)

The aim of catchment management is to protect and enhance the water environment through managing the surrounding land. We have a long history of doing just that on the 11,000 hectares of catchment land we own around our reservoirs – many of which you can visit and enjoy for yourselves. This work ensures that NI Water complies with all relevant environmental legislation by maximising ecosystem services provided by each catchment and improving the quality and reliability of raw water supply which has added benefits of improving operational efficiencies in water treatment works (WTWs).

Our Sustainable Catchment Management Team have continued to plan and implement catchment management measures as well as nature-based solutions to help manage our landholdings sustainably and improve water quality at source, prior to treatment. We aim to use a risk-based approach to reduce contaminants at source through catchment management solutions rather than traditional high energy treatment, which is often a more cost-effective and energy efficient way of tackling water quality issues.

We work with key stakeholders to help improve water quality from land we don't own, as well as leading by example on the land owned by NI Water. Our greatest opportunity for successful catchment management is in these areas, which are often upland and dominated by peat and heathland. Iconic loughs and rivers, forests, uplands and lowlands together form a rich natural tapestry across the landscape, in addition to being important drinking water sources which must be protected.



Delivering in Partnership

The ethos of the catchment team is to work in partnership with key stakeholders, landowners, statutory bodies and NGOs to deliver mutual benefits to protect and enhance our natural environment as well as protecting water quality. This maximises the use of external body's expertise for mutual benefit as well as availing of significant external funding to the benefit of NI Water and the environment.

Our catchment-based projects carry out a range of work which will contribute to conserving and enhancing protected sites, through its Sustainable Catchment Area Management Practice. This is done by embodying genuine partnership and collaboration between the responsible public authorities, environmental NGOs, land managers and other key stakeholders, as well as local community engagement. NI Water owns approximately 6,395 hectares designated as Areas of Special Scientific Interest (ASSIs), These are areas of vital importance for providing clean water sources, safeguarding the natural environment, for building environmental resilience and for mitigating and adapting to climate change. They are also of enormous importance for people's health, well-being and prosperity. NI Water is responsible for good management of these sites within the catchments that supply water to the treatment works in order to improve water quality, whilst also being responsible for ensuring that their operations do not harm protected sites.

NI Water is a core partner in the recently formed Forever Lough Neagh Partnership. This entails collaborating with multiple other key stakeholders through the aim of achieving long term improvement in water quality in Lough Neagh, especially following the blue-green algae problems in recent years.

Lough Neagh is an invaluable resource providing over 40% of Northern Ireland's drinking water and structures are now in place to carry out measures to improve water quality in line with the Department of Agricultural, Environment and Rural Affairs (DAERA) Lough Neagh Report published in July 2024.

Agriculture continues to be a key pressure on our water resources. Our 'Farming for Water' scheme continued to be implemented in 2024/25, focusing on reducing the amount of the herbicide MCPA, as well as excess nutrients and soil getting into the watercourses connected to Clay Lake WTW. Clay Lake WTW provides drinking water for Keady, County Armagh, which is also hydrologically part of the Lough Neagh catchment. The scheme provides 100% funded measures for farmers within the catchment area to make environmental / water quality improvements for their farm business to improve raw water quality. We have 33 farms currently signed up for the scheme, with watercourse fencing installed, pesticide storage cabinet and spill kits provided, mains drinkers, and solar installed and weed wiping carried out as well as liming.

We have carried out a number of Farm Chemical Disposal Schemes. All land managers in Carmoney (Faughan River), County Derry / Londonderry and part of Ballinrees (Lower Bann), County Derry / Londonderry catchments were invited to register for a free Farm Chemical Disposal Scheme. These will reduce the risk of accidental chemical pollution incidents and the use of banned chemicals in these catchments, which have experienced raw water pesticide challenges. Large amounts of unwanted (or out of date) chemicals were removed and will no longer be a risk to water quality.

We attended several CAFRE Farm Business Development Group meetings (farming education group meetings), Environmental Farming Group Meetings and other Rush control events held by DAERA for farmers, and presented on local water treatment, water quality protection and pesticide best practice.

We have continued to promote best practice pesticide use in our catchments as members of the Water Catchment Partnership.

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Restoring our peatlands

NI Water's Catchment Team working in partnership with RSPBNI and Forest Service carried out an innovative peatland restoration project in the Lough Bradan catchment.

In Northern Ireland, our peatlands are the upland source of many of our drinking water supplies as well as being of enormous importance to the stability and general well-being of our environment, conserving biodiversity, impacting on river catchment hydrology and creating our distinctive upland and lowland landscapes. On both a global and local scale, peatlands can store and sequester carbon, with implications for the regulation of our climate. However, many of our peatlands in Northern Ireland are in poor condition through actions such as turf cutting and drainage, and through biodiversity loss from pollution sources such as agricultural ammonia. Instead of acting as carbon sinks, damaged peatlands release carbon into the atmosphere and contribute to global warming.

Our peatland restoration programme has been ongoing since 2014. On our Dungonnell catchment in the Antrim Hills, we have restored over 500ha of blanket bog, filtering cleaner raw water into our reservoir and the bog beginning to function again. Benefits for water quality in terms of colour, turbidity and organic carbon can now be clearly seen in the raw water, providing a much improved and more stable raw water source for Dungonnell WTW.

In addition, work has now been completed in the Lough Bradan catchment to restore 28 hectares of previously forested peatland adjacent to Lough Bradan reservoir. The £143k project is funded through the Peatland Challenge Fund, under the Shared Island Initiative; a partnership between NIEA, National Parks and Wildlife Ireland and NatureScot.

This funding application marks another successful collaboration between NI Water and project partners RSPBNI. The area has been under the management of Forest Service for over 60 years, and the SCaMPNI team carefully negotiated the removal of trees and have obtained consents and licences to enable this restoration. Whilst the key target is to improve the water quality through natural filtration and flood attenuation, the works will also enhance biodiversity, reduce carbon losses from the land and provide a habitat for many rare and endangered species.

We work closely with DAERA Forest Service in our drinking water catchments to negotiate back areas of commercial forestry planted on peat where there might be long-term benefits to water quality, biodiversity and carbon storage.

PEACEPLUS Projects

In 2025 /2026, NI Water plan to work with key environmental stakeholders, to protect drinking water catchment areas, through a number of key externally funded projects, including 'Peace Plus Nature', Peace Plus 'Protecting Shared Waters' and Peace Plus 'peat plus'. We will partner with catchment stakeholders to invest National Lottery Climate Action Fund and Peatland Restoration funding. We will implement more Nature Based Solutions than ever before, taking NI Water on a journey to more widespread sustainable drinking water catchment management.

In early March 2025, we learned we were successful in achieving €7.5M PEACEPLUS funding from the Special EU Programmes Body (SEUPB) for the Protecting Shared Waters Project. The project will be led by NI Water in partnership with Uisce Éireann (Irish Water), The Rivers Trust, Agri-Food and Biosciences Institute (AFBI), Ulster University, Ulster Wildlife and The James Hutton Institute. It seeks to address the challenge of high nutrient, pesticide and sediment concentrations in sub-catchments of the Strule (Foyle cross-border river catchment) and the Fane cross-border river catchment. This is impacting Water Framework Directive (WFD) Classifications as well as raw drinking water quality, and also puts considerable pressure on water quantity.

The overall objective is to jointly develop transferable catchment management solutions that will contribute to water quality / quantity improvements that will benefit cross border communities, landowners, stakeholders and peace and prosperity in the Region.

The project will run until late 2028 and it will develop catchment solutions to:

- Restore peatland and develop restoration plans
- Deliver bespoke non-regulatory site-specific agronomic and advisory support to farms in a Strule sub-catchment
- Develop a decision-making process applicable for NI/border counties ensuring that the right nature-based solutions (NbS) are implemented in the right places
- Work with the farming community to implement a series of pilots for NbS on agricultural land in selected sub-catchments of the Camowen catchment
- Deliver multi-sectoral engagement work with communities, farmers and industry to address water quality/quantity issues in a selected sub-catchment of the Fane including installing NbS and promoting water conservation
- Install water conservation measures such as rainwater harvesting in the Fane catchment

The project will also raise awareness of the importance of protecting water quality/ quantity and share learnings with communities and stakeholders contributing to changes in behaviours/mindsets of landowners.

We have also applied for funding for a programme of large-scale peatland restoration through the Peace Plus 'Nature' and Peace Plus 'peat plus', in collaboration with a range of stakeholders. If successful this will deliver peatland restoration at Killylane, Dungonnell, Altnahinch and Silent Valley catchment areas. A management plan for a further phase of peatland restoration work at Garron Plateau has been completed, which we aim to complete via an externally funded project in partnership with RSPBNI over the next five years. This will focus on repairing peat hags and gullies formed by natural processes and will reduce the erosion of peat material from these areas into the reservoir. This was the first in Northern Ireland to be registered under the International Union for Conservation of Nature (IUCN) Peatland Carbon Code will achieve a Net Emissions reduction of 55,030 tonnes of carbon, leading to a Claimable Emissions Reduction (potential offsetting / insetting) of 46,775 tonnes of carbon equivalent over the 30-year programme.

The third phase of restoration has been registered.

Mournes Catchment Management

The Mournes catchments are NI Water's largest land holding. While the raw water quality from our Mournes catchments is excellent, the vastness of the area, the mosaic of habitats and habitat conditions, multiple habitat designations and catchments threats such erosion, extreme weather, visitor pressures, wildfire and habitat degradation mean the area benefits from holistic and cohesive landscape management with multiple stakeholders and neighbouring land managers.

After more than a year holding a trial conservation grazing regime licence for the Silent Valley and demonstrating excellent grazing and habitat management practices, in September 2024 the Mourne Conservation Graziers Ltd. were granted an extended sheep grazing licence until December 2030.

Working with NI Water and the Mourne Heritage Trust, the graziers use the right number of sheep moved around the region to evenly graze some areas and protect other areas.

Mourne Mountains.

Properly managing the long-term grazing in upland designated areas is essential to allow NI Water to meet our obligations and landowners of the Eastern Mournes SAC under the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended). Optimum grazing in upland habitats helps reduce wildfire fuel load in the form of gorse and large heather plants, it helps maintain soil integrity in areas of shallow (<50cm) and deep (>50cm) peat which in turn reduces erosion of soil into our reservoirs, and when done properly grazing allows for important upland species like heathers to flourish. Ensuring optimal grazing in our Mournes catchments also achieves measures set out as part of the High Mournes Management Plan and the Eastern Mournes SAC Conservation Management Plan, due to be published by the Mourne Heritage Trust in 2025.

The Forever Mournes Partnership is continuing our work in promoting cohesive management of the Mournes across our collective landholdings for people, land and nature.

Mourne Heritage Trust – Caring for Mourne

National Trust

niwater – Delivering what matters

Woodland Trust Northern Ireland

The 2024-25 financial year saw significant progress in securing long-term funding to implement measures including the completion of a large-scale Accessibility audit and Visitor Facilities review and Interpretation Masterplan across the entire Mournes area, the completion of a Climate Change Study, the development of a Skills Strategy and development of a significant communications calendar including a number of public events promoting the partnership work and future plans.

The perseverance of the Silent Valley conservation grazing regime, the development of the Eastern Mournes SAC Conservation Management Plan and the progression of the Forever Mournes Partnership along with upcoming Peace Plus-funded projects as well as working together with our Mournes neighbours on everyday pressures helps ensure consistent land management and mutual understanding of the importance of optimal habitat for raw water protection.

Clay Lake impounding shallow freshwater lake, County Armagh.

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 – 2028), 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 WQ 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 although this target will be reduced due to financial constraints. Approximately 430km have been laid to date.

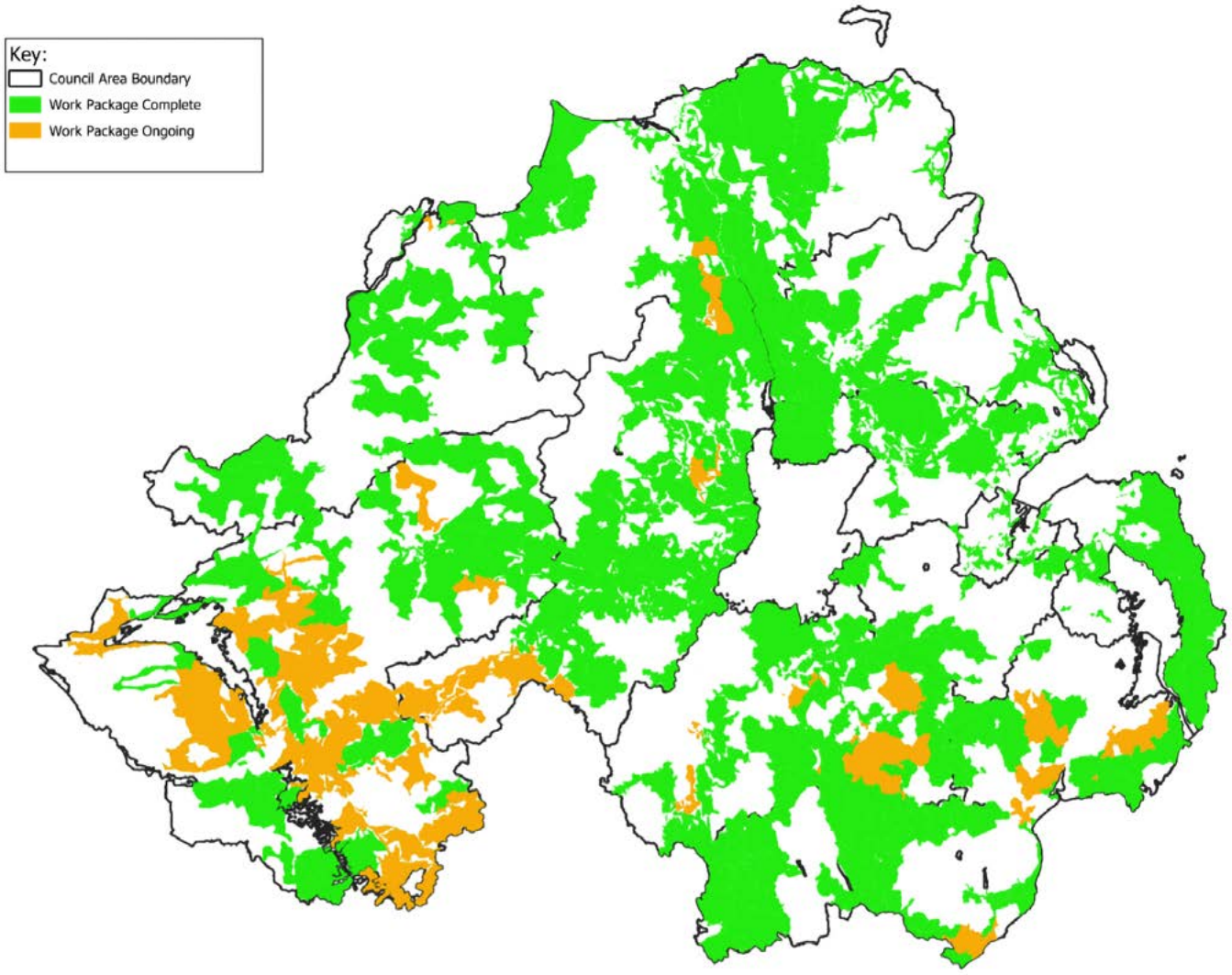
Further consultation will be needed between NIW and the Utility Regulator to ascertain the impact upon the organisation due to the recent budgetary restrictions.

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 PC28 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
June 2025



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 927,139 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 603.74million litres of high quality drinking water to customers every day during 2024/25. 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 (WRMP) 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 latest version of the WR&SR Plan was published in April 2025.

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.

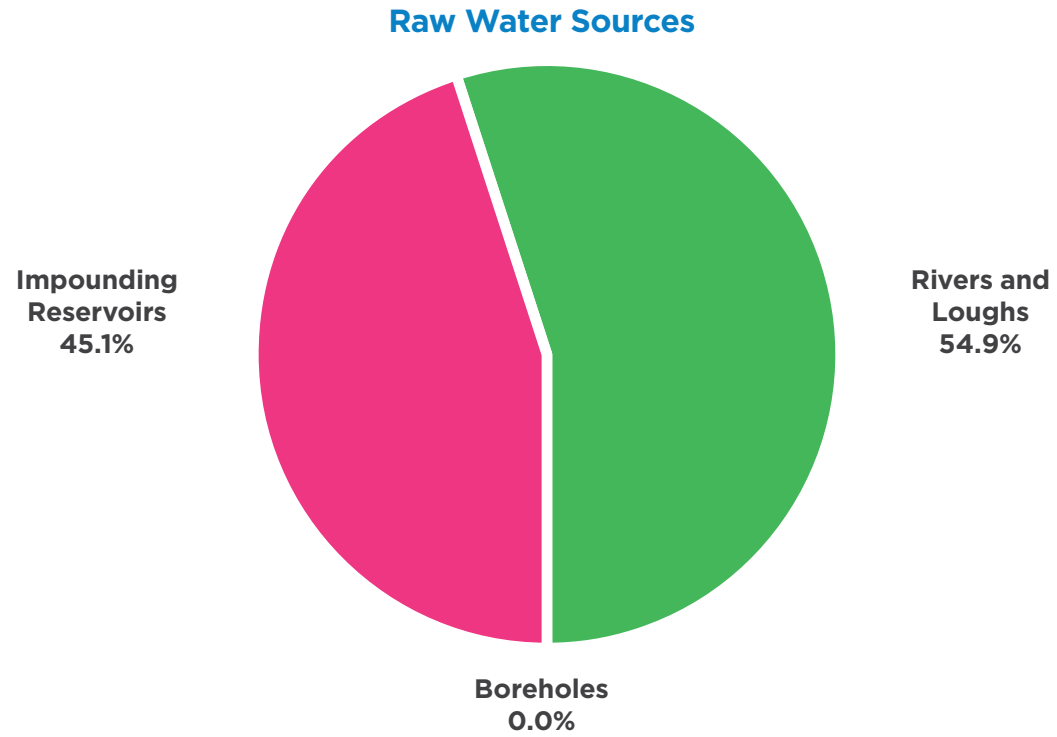
The Plan takes into account changes in population, housing, water usage and incorporates any predicted changes to our climate. This includes how water supplies would be maintained during critical periods such as severe winters, drought and also includes a drought plan.

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

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 2024, four audits were completed

- An audit of Moyola WTW
- An audit of Caugh Hill WTW
- An audit of Sampling Procedures
- 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, Tonagh, 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 the potential to impact on drinking water quality. 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 2024 is detailed in Appendix 4.

Regulatory Enforcement

During 2024, three Regulation 31(4) Notices were ongoing

- Regulation 31(4) Notice 2023/001 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 20 December 2024. This was issued on 18 December 2023. NI Water have provided evidence to demonstrate that the new treatment process meets the requirements of the Notice to DWI for review.
- Regulation 31(4) Notice 2023/002 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 20 December 2024. This was issued on 18 December 2023. NI Water have provided evidence to demonstrate that the new treatment process meets the requirements of the Notice to DWI for review.
- 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. This Notice was amended on 27 May 2025 to provide an additional 5 months to complete the required treatment upgrade by 30 September 2025.

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 2024, the numbers of NI Water sites in service were:

Site Type	Number in Service
Water Treatment Works	25
Service Reservoirs	287
Water Supply Zones	62
Authorised Supply Points (see glossary)	25

Overall Water Quality Testing

During 2024, 100,522 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, 100,404 tests complied with the regulatory standards giving an overall percentage compliance of 99.88%.

Location Type	No of Samples	Regulatory Parameters Analysed	Regulatory Parameters used for Compliance Assessment
Water Treatment Works	6,312	44,428	19,180
Service Reservoir	14,814	88,880	29,628
Zone (including Authorised Supply Point)	5,412	67,101	51,714
Overall	**26,538**	**200,409**	**100,522**

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

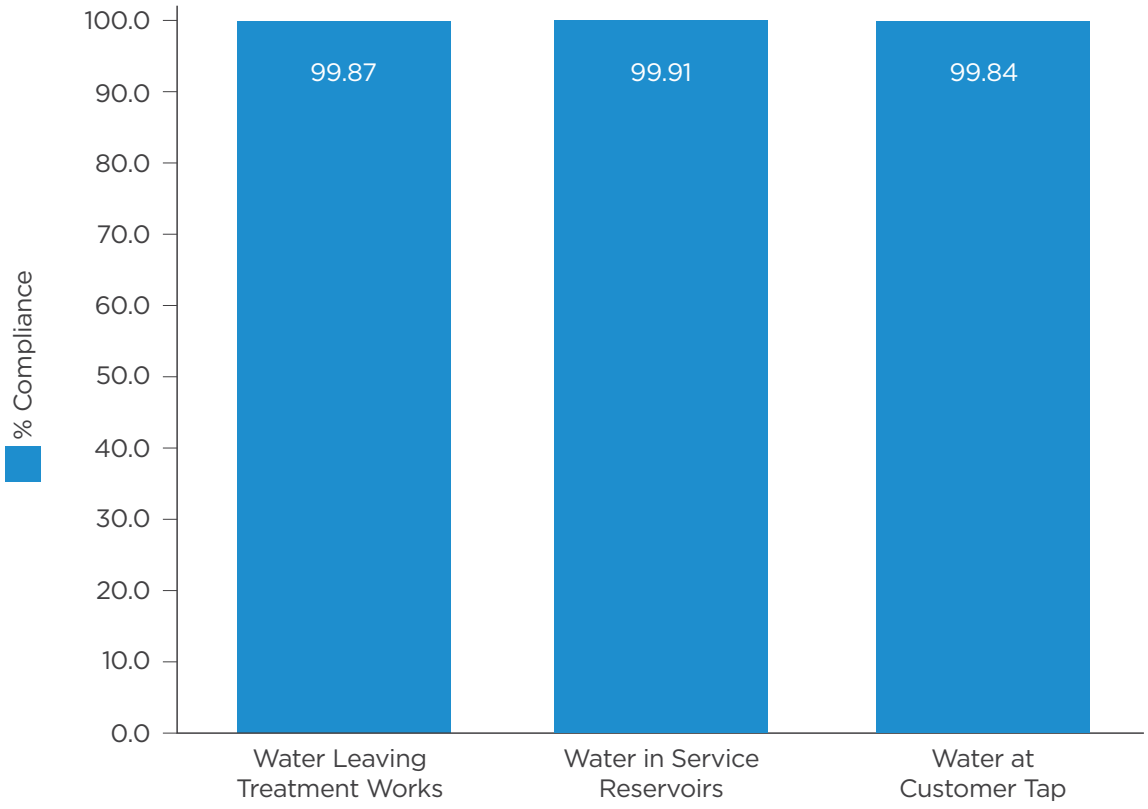
Effective disinfection is fundamental to the treatment process. For effective disinfection the water the Regulations require that the water prior to disinfection must be treated to ensure that the turbidity of the water does not exceed 1 NTU. Water leaving water treatment works is disinfected with chlorine 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 2024 is given below.

Overall Microbiological Water Quality



Water Quality Summary

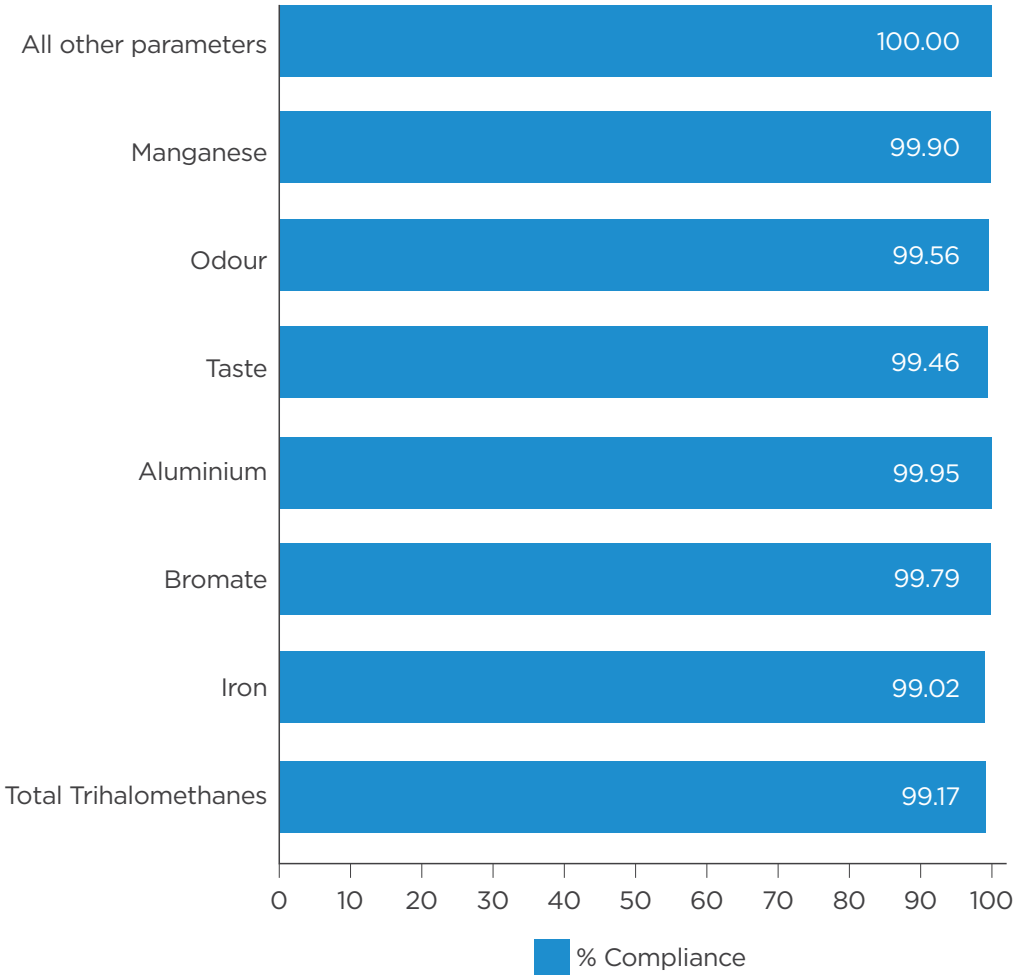
Physical and Chemical Quality at Customer tap

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 2024, 40,166 physical and chemical tests were assessed against their consent for water samples taken at customer taps or authorised supply points. Of these, 40,117 tests complied with the regulatory standards giving a compliance of 99.88% 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**
Water Leaving Treatment Works			
Bacteriological Analysis	12,624	16	99.87
Indicator parameters	6,556	9	99.86
Total	**19,180**	**25**	**99.87**
Water in Service Reservoirs			
Bacteriological Analysis	29,628	26	99.91
Total	**29,628**	**26**	**99.91**
Water at Customers' Taps or Authorised Supply Points			
Bacteriological Anal. inc Coliforms	11,548	18	99.84
Zone Chemical Analysis	30,347	48	99.84
Supply Point Chemical Analysis	9,819	1	99.99
Total	**51,714**	**67**	**99.87**
Total Mandatory Parameters	**93,966**	**109**	**99.88**
Overall Water Quality Total	**100,522**	**118**	**99.88**

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 2024, 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

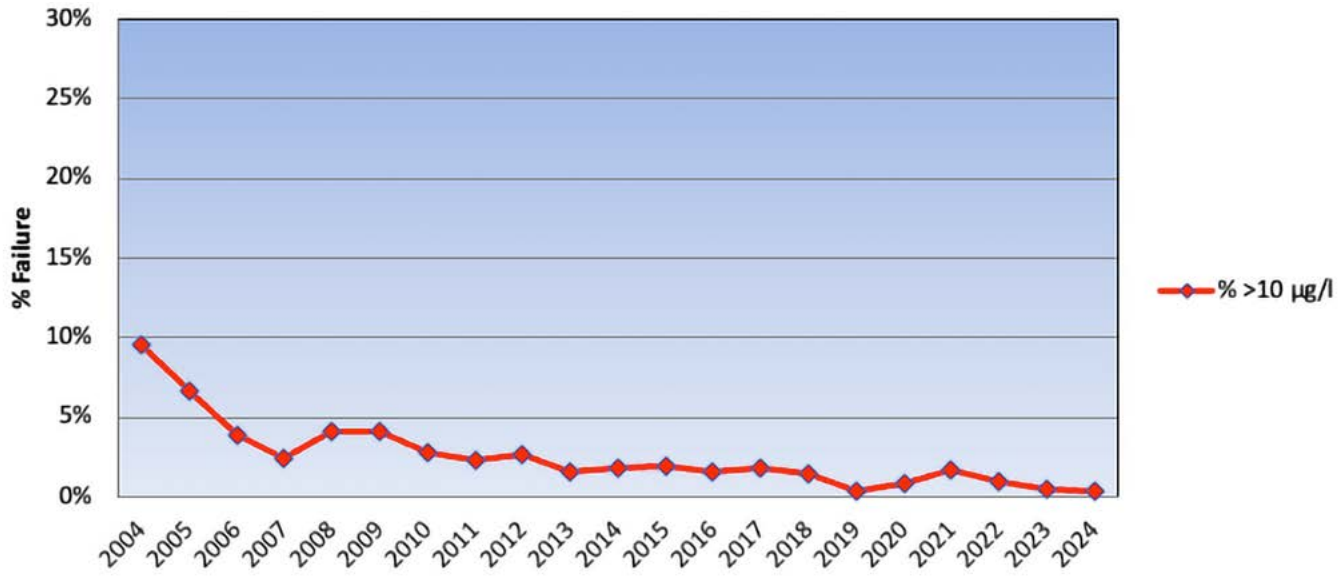
If you find lead pipes, you should have these replaced as soon as possible. It will be the responsibility of the property owner to replace any lead pipework on the property. NI Water will replace free of charge, any of its lead pipes supplying a property, if it receives a written request from a customer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

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 25µg/l to 10µg/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.

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 2024. 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 was undertaken at Ballinrees WTW to improve pesticide (MCPA) removal - this work was completed 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 restores 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:

- Long lengths of pipework within large buildings
- 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 (equivalent to 1 teaspoon in 200 Olympic swimming pools), some people can still detect them.
  - They are not harmful to health and in the areas where we know this is a problem, we treat the water with activated carbon and or ozone

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

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).

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 5 herein. The table below details the numbers of inspections completed contraventions observed and contraventions awaiting customer resolutions during the 2024 calendar year.

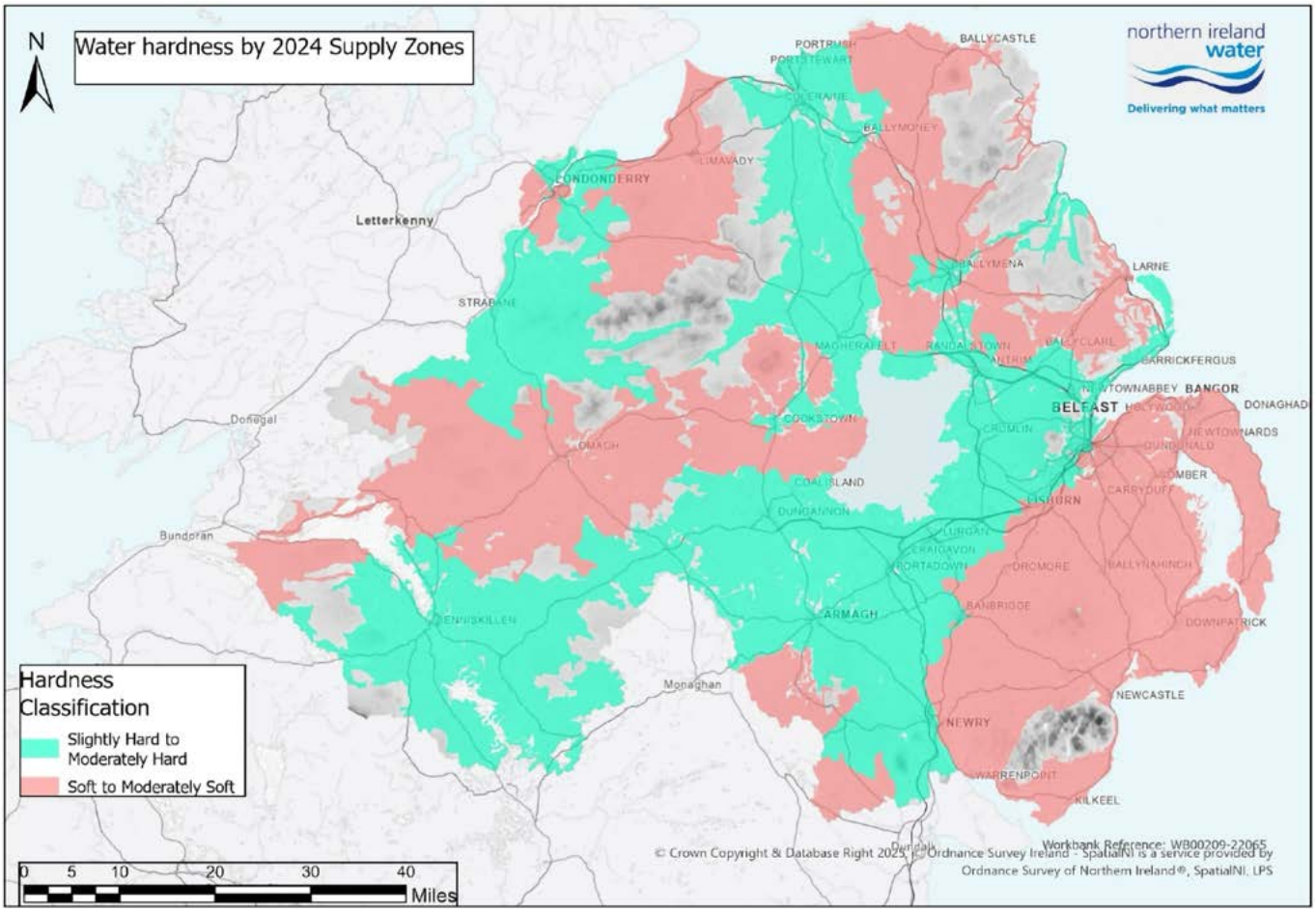
Description	Number (by 2024 calendar year)
Number of Domestic and Non Domestic Inspections • Proactive • Reactive	1,305 1,218 87
Number of Premises/Bodies visited	1,297
Number of Contraventions recorded	3,787
Number of Contraventions recorded (All FC1-3)	3,662
Number of Contraventions recorded (All FC4-5)	125
Number of Contraventions rectified (FC1-3)	1,947
Number of Contraventions rectified (FC4-5)	108
Number of Outstanding Contraventions	1,502
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 lard water lathers less than soft water. Hardness has no adverse effects on heath 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. A charge may be made for printed information on other zones.

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

Customers who have hearing difficulties can also contact us via Text Relay on:
03457 440088

Customers may also contact Customer Services by email on:
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.

We have introduced 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.

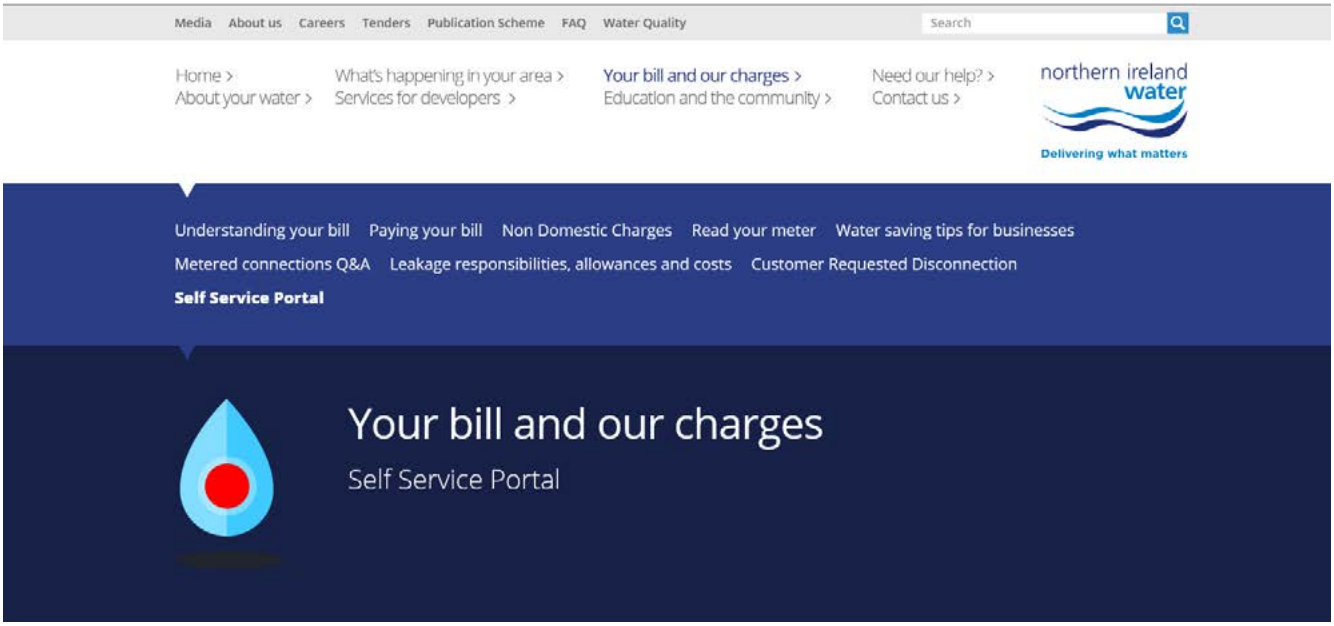
Customer Services

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

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.

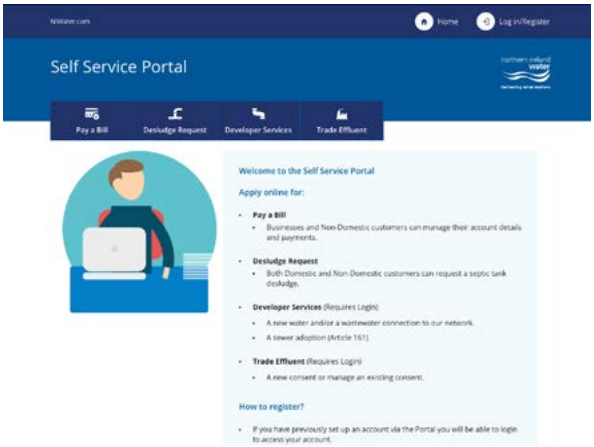


Customers are able to:

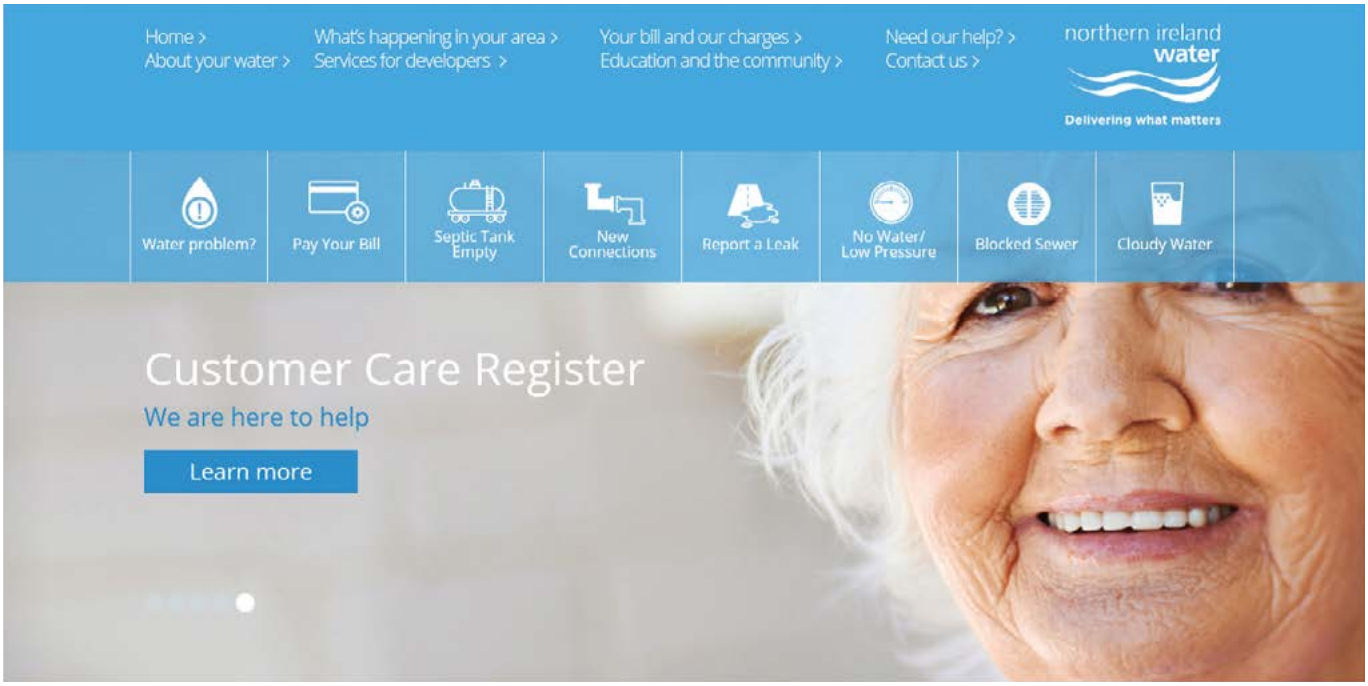
Apply online for:

- **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.

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 call 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

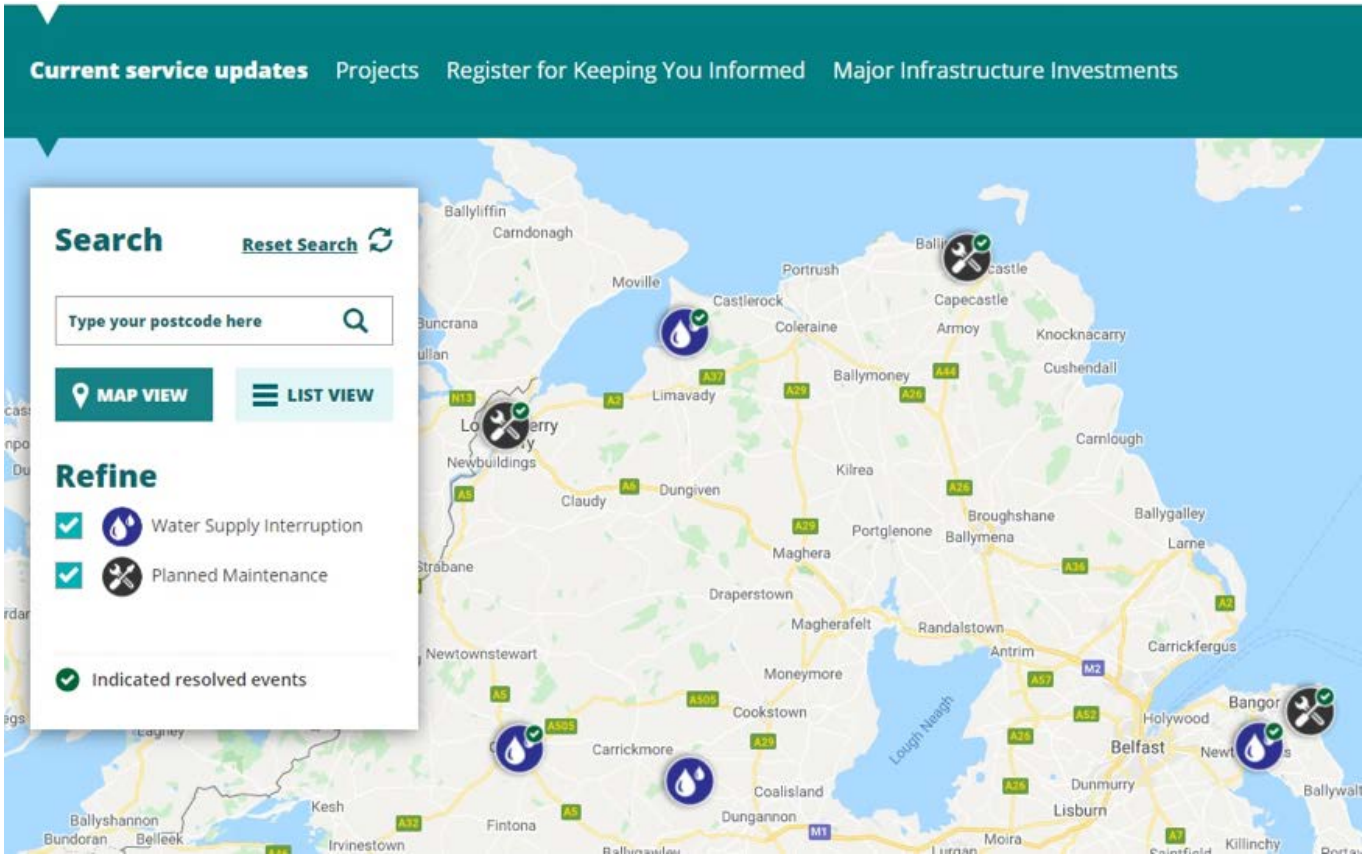
NI Water's website routinely provides information to its customers regarding interruptions, repairs, and planned upgrades as well as frequently asked questions and answers and links to helpful sites e.g. to find a plumber etc.

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.

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
Escherichia coli (E. coli)	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_3/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_3/l	Customers' taps
Nitrite	0.5	mg NO_2/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_4/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_4/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	2024 Samples	No > PCV	% > PCV
1,2 Dichloroethane	µg/l	480	0	0.00%
Aluminium	µg Al/l	2,040	1	0.05%
Antimony	µg Sb/l	480	0	0.00%
Arsenic	µg As/l	480	0	0.00%
Benzene	µg/l	480	0	0.00%
Benzo(a)pyrene	ng/l	477	0	0.00%
Boron	µg B/l	480	0	0.00%
Bromate	µg/l	479	1	0.21%
Cadmium	µg Cd/l	480	0	0.00%
Chromium	µg Cr/l	480	0	0.00%
Colour	mg/l Pt/Co	2,040	0	0.00%
Copper	mg Cu/l	480	0	0.00%
E. coli	No./100ml	5,412	0	0.00%
Enterococci	No./100ml	480	1	0.21%
Fluoride	mg F/l	480	0	0.00%
Iron	µg Fe/l	2,040	20	0.98%
Lead	µg Pb/l	480	0	0.00%
Manganese	µg Mn/l	2,040	2	0.10%
Mercury	µg Hg/l	480	0	0.00%
Nickel	µg Ni/l	480	0	0.00%
Nitrate	mg NO_3/l	480	0	0.00%
Nitrite	mg NO_2/l	480	0	0.00%
Odour	dilution No	2,039	9	0.44%
PAH - Sum of four substances	µg Se/l	477	0	0.00%
Selenium	mg Na/l	480	0	0.00%
Sodium	dilution No	480	0	0.00%
Taste	µg/l	2,039	11	0.54%
Tetrachloroethene/Trichloroethene - Sum	µg/l	480	0	0.00%
Tetrachloromethane	µg/l	480	0	0.00%
Total Trihalomethanes	µg/l	480	4	0.83%
Turbidity	FTU	2,040	0	0.00%

Indicator parameters	Units	2024 Samples	No > PCV	% > PCV
Coliform bacteria	No./100ml	5,412	17	0.31%
Total - Residual disinfectant	mg Cl/l	5,412	-	-
Free - Residual disinfectant	mg Cl/l	5,412	-	-
Colony Counts 37 (48hrs)	No./1 ml	2,040	-	-
Colony Counts 22	No./1 ml	2,040	-	-
Total Organic Carbon	mg C/l	480	-	-
Ammonium	mg NH_4/l	480	0	0.00%
Chloride	mg Cl/l	480	0	0.00%
Hydrogen Ion	pH value	2,036	0	0.00%
Conductivity	uS/cm 20	2,040	0	0.00%
Sulphate	mg SO_4/l	480	0	0.00%

Appendix 2

Water Quality Report for Authorised Supply Points

Schedule 1 parameters	Units	2024 Samples	No > PCV	% > PCV
Cyanide	µg CN/l	239	0	0.00%
Pesticides - Total Substances	µg/l	244	0	0.00%
All other analysed Pesticides	µg/l	9,272	1	0.00%

Indicator parameters	Units	2024 Samples	No > PCV	% > PCV
Clostridium perfringens (sulph red)	No./100 m	244	0	0.00%
Total Indicative Dose		32	0	0.00%
Tritium	Bq/l	32	0	0.00%

Water Quality Report for Water Treatment Works

Schedule 1 parameters	Units	2024 Samples	No > PCV	% > PCV
Coliform bacteria	No./100ml	6,312	14	0.22%
E. coli	No./100ml	6,312	2	0.03%
Nitrite	mg NO_2/l	244	0	0.00%

Indicator parameters	Units	2024 Samples	No > PVC	% > PVC
Turbidity	FTU	6,312	9	0.14%
Total - Residual disinfectant	mg Cl/l	6,312	-	-
Free - Residual disinfectant	mg Cl/l	6,312	-	-
Colony Counts 37 (48hrs)	No./1 ml	6,312	-	-
Colony Counts 22	No./1 ml	6,312	-	-

Water Quality Report for Service Reservoirs

Schedule 1 parameters	Units	2024 Samples	No > PCV	% > PCV
Coliform bacteria	No./100m	14,814	26	0.18%
E. coli	No./100ml	14,814	0	0.00%

Indicator 1 parameters	Units	2024 Samples	No > PVC	% > PVC
Colony Counts 37 (48hrs)	No./1 ml	14,814	-	-
Colony Counts 22	No./1 ml	14,814	-	-
Total - Residual disinfectant	mg Cl/l	14,812	-	-
Free - Residual disinfectant	mg Cl/l	14,812	-	-

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.

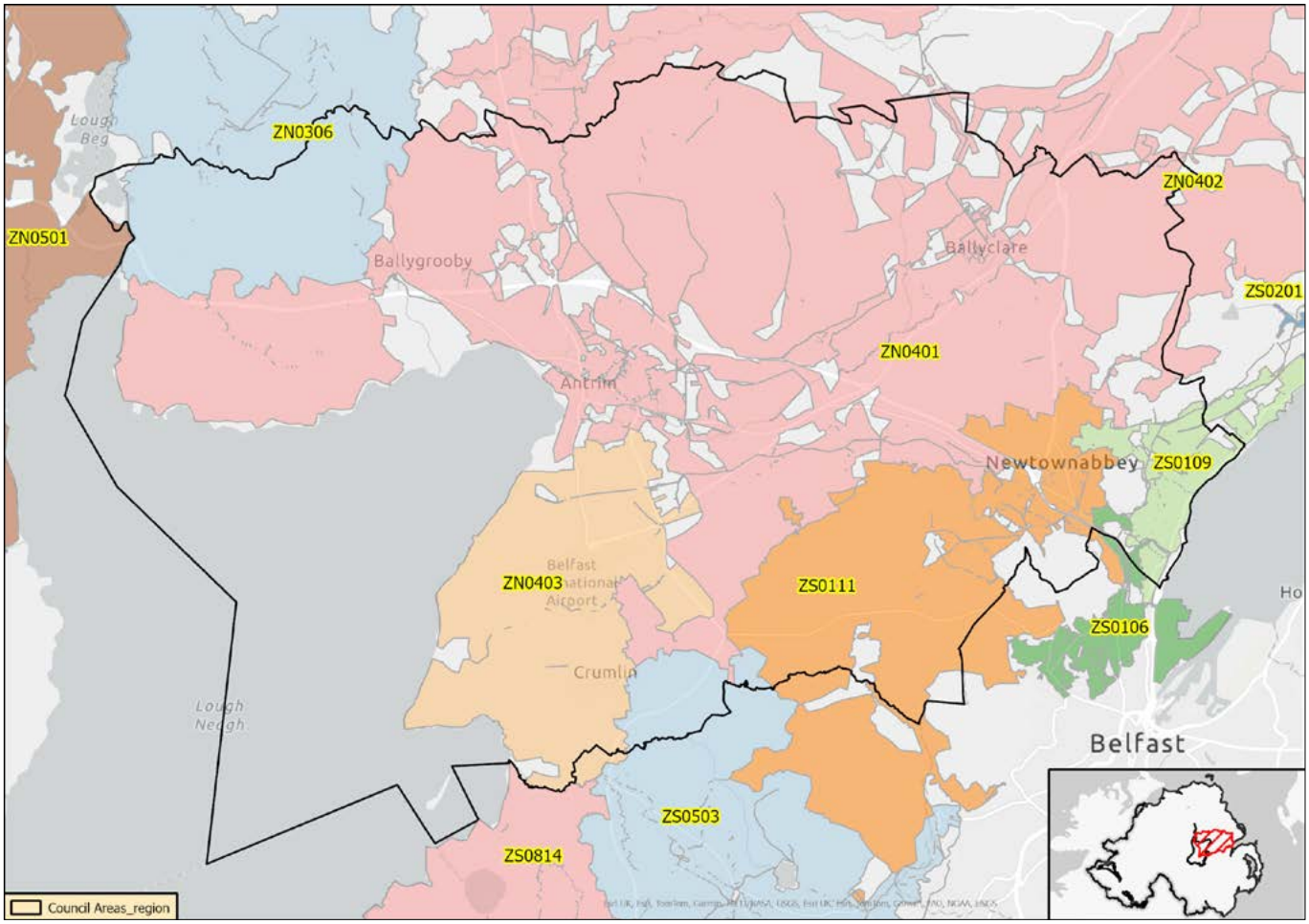
The report also details Capital Work Programmes affecting the council area, which directly related to water quality during the reporting period.

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	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Antrim and Newtownabbey Compliance	99.7%	99.8%	100.0%	99.9%	99.9%	99.9%	99.9%

2024 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0306	Dungonnell Portglenone	ZS0106	Dunore Belfast North
ZN0401	Dunore Point Antrim	ZS0109	Dorisland Whiteabby
ZN0402	Killylane Ballynure	ZS0111	Dunore Point Hydepark
ZN0403	Dunore Point Crumlin	ZS0503	Castor Bay Stoneyford

Appendix 3

2024 water quality Capital Works Programmes affecting the council area:

2021 Drought Mitigation Project

Abstraction Monitoring

Antrim South WIIM 2.1 Work Package

Back siphonage at WTW

Clean Water Network Modelling 2021 to 2024

DS14120 - Watermain - Belmont Road Antrim

DS33565 - Hightown Road, Glengormley Watermain Upgrade

Eastern Super work package Phase 2

Facilities Management Review

Feasibility Study for using Groundwater Abstraction

High Demand - External Modelling

Lismacloskey Road watermain Rehabilitation

MIMP Central (Major Incident Mitigation Project Central Region) Freeze Thaw Improvements

MIMP East (Major Incident Mitigation Project East Region) Freeze Thaw Improvements

Newtownabbey Zone Watermain Improvements Phase 3

NIAMP5 Project Support

Northern WRZ Resilience

Owner Controlled Insurance Programme (OCIP)

PC15 Lead Communication Pipe Replacement Programme

PC15 Year 1 Base Maintenance - Chlorine Dosing Sites

PC27 Water Treatability optimisation pilot plant

Preparation of Initial Work packages for PC21

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

Trunk main Rehab PC21 Year 1

Water Efficiency and Innovation Support Services

Water Resource & Supply Resilience Plan

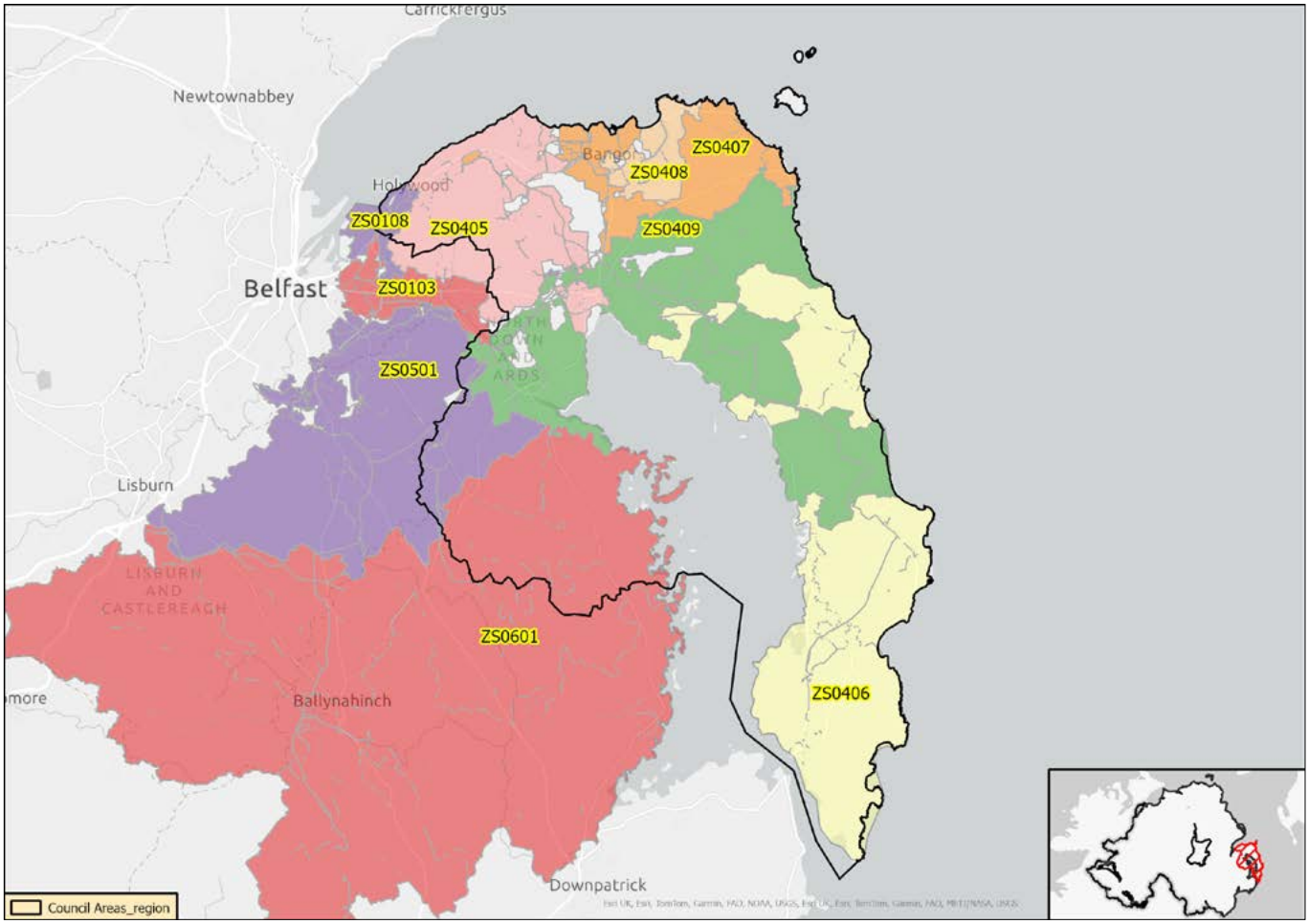
Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

WIIM Phase 2 Dunore East WP

Appendix 3

Ards and North Down Borough Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Ards and North Down Compliance	99.7%	99.9%	99.9%	100.0%	99.9%	100.0%	99.9%

2024 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZS0108	Belfast Purdysburn	ZS0408	Drumaroad Bangor East
ZS0405	Drumaroad Ards West	ZS0409	Drumaroad Ards East
ZS0406	Drumaroad Portaferry	ZS0501	Drumaroad Lisburn
ZS0407	Drumaroad Bangor West	ZS0601	Drumaroad Ballynahinch

Appendix 3

2024 water quality Capital Works Programmes affecting the council area:

2021 Drought Mitigation Project

Abstraction Monitoring

Back siphonage at WTW

Bangor Road, Holywood, Watermain Extension

Clean Water Network Modelling 2021 to 2024

Eastern Super work package Phase 2

Facilities Management Review

Feasibility Study for using Groundwater Abstraction

High Demand - External Modelling

MIMP East (Major Incident Mitigation Project East Region) Freeze Thaw Improvements

NIAMP5 Project Support

Owner Controlled Insurance Programme (OCIP)

PC15 Lead Communication Pipe Replacement Programme

PC15 Year 1 Base Maintenance - Chlorine Dosing Sites

PC27 Water Treatability optimisation pilot plant

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

Trunk main Rehab PC21 Year 1

Water Efficiency and Innovation Support Services

Water Resource & Supply Resilience Plan

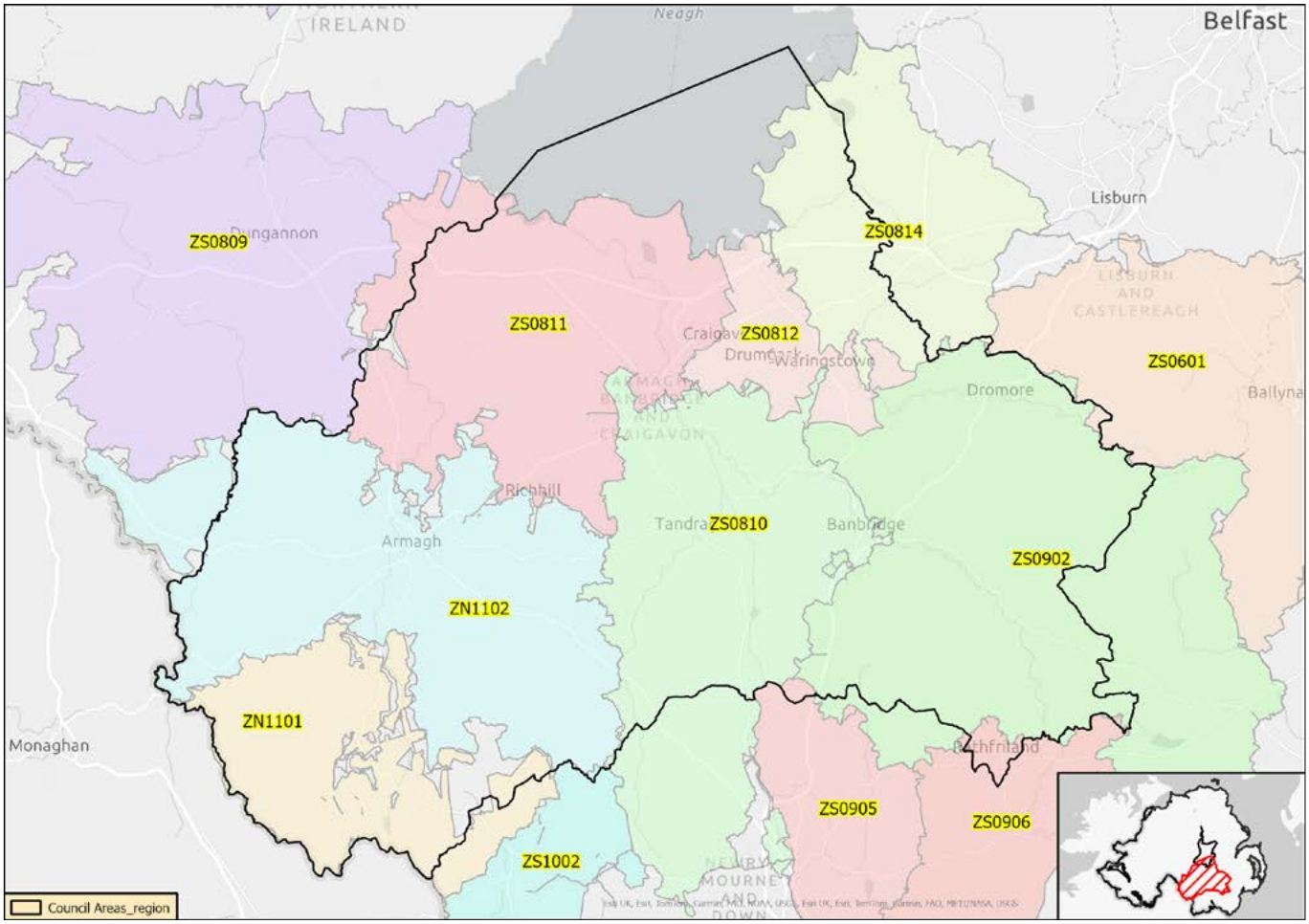
Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

Whitespots Trunk main

Appendix 3

Armagh City, Banbridge and Craigavon Borough Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Armagh, Banbridge & Craigavon Compliance	99.7%	99.9%	99.9%	99.7%	99.9%	99.9%	99.9%

2024 water supply zones wholly or partially within the council area:

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

Appendix 3

2024 water quality Capital Works Programmes affecting the council area:

2021 Drought Mitigation Project

Abstraction Monitoring

Back syphonage at WTW

Banbridge South Armagh WIIM 2.1 Work Package

Castor Bay Outage

Castor Bay to Ballydougan Trunk Main

Castor Bay to Dungannon Strategic Trunk Mains

Clean Water Network Modelling 2021 to 2024

Craigavon WIIM 2.1 Work Package

CWT - Seagahan

Facilities Management Review

Feasibility Study for using Groundwater Abstraction

High Demand - External Modelling

Lurgan Moira WIIM 2.1 Work Package

NIAMP5 Project Support

Owner Controlled Insurance Programme (OCIP)

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PC27 Water Treatability optimisation pilot plant

Preparation of Initial Work packages for PC21

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

Slaterock Watermain Scheme

Trunk main Rehab PC21 Year 1

Water Efficiency and Innovation Support Services

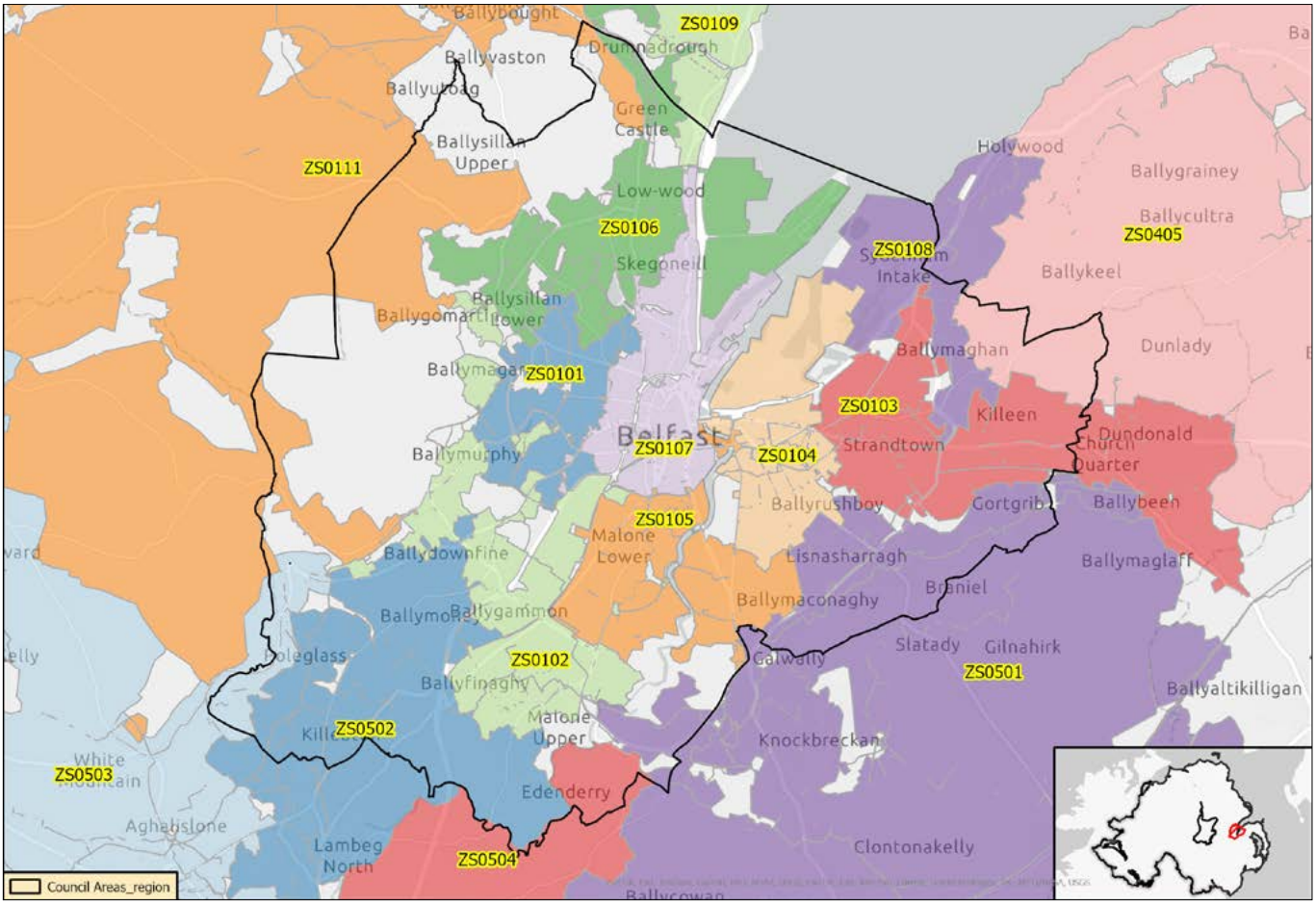
Water Resource & Supply Resilience Plan

Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

Appendix 3

Belfast City Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Belfast Compliance	99.7%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%

2024 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	Castor Bay Stoneyford
ZS0107	Belfast Oldpark	ZS0504	Lisburn South
ZS0108	Belfast Purdysburn		

Appendix 3

2024 water quality Capital Works Programmes affecting the council area:

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PC27 Water Treatability optimisation pilot plant

Preparation of Initial Work packages for PC21

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

Trunk main Rehab PC21 Year 1

Water Efficiency and Innovation Support Services

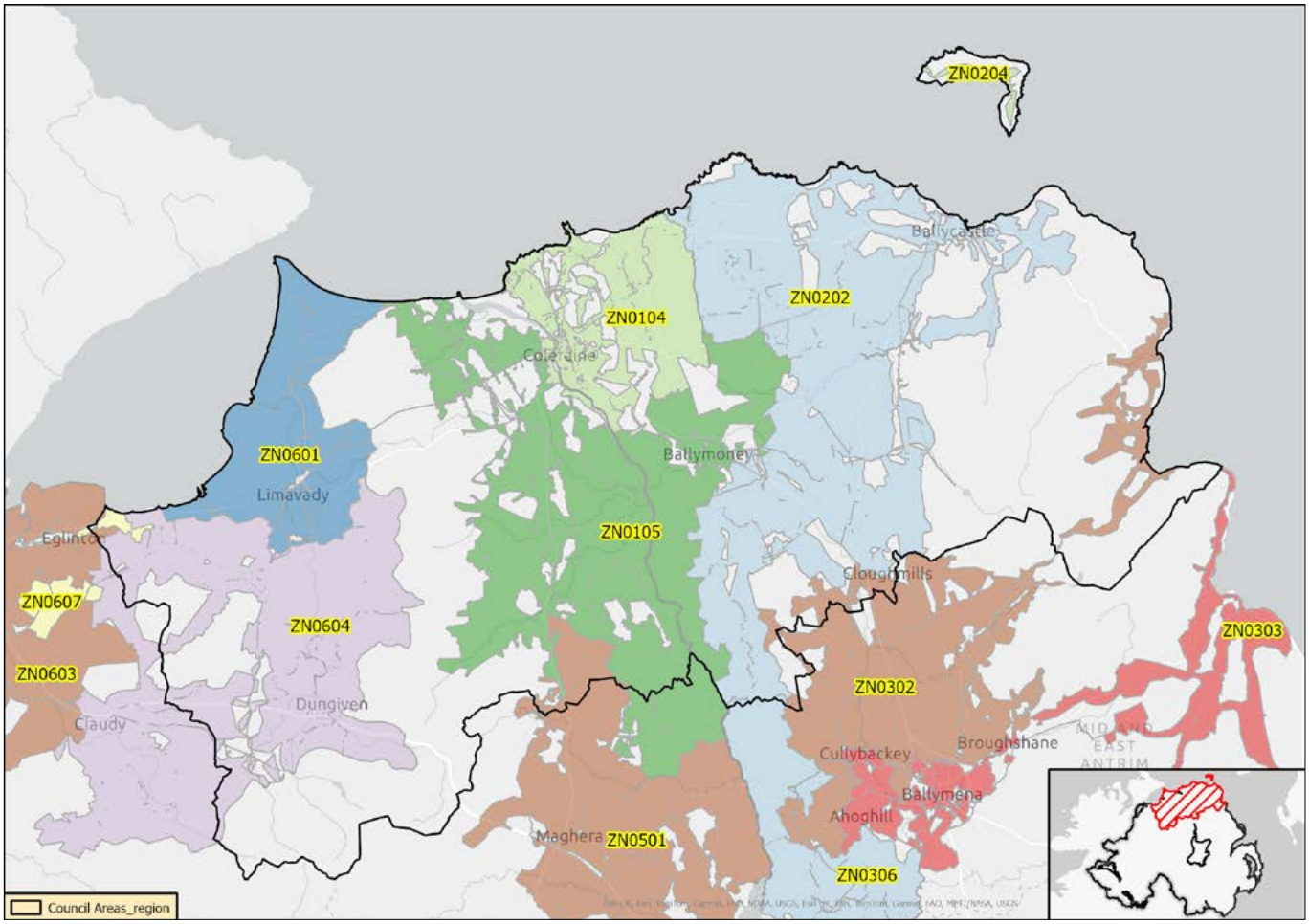
Water Resource & Supply Resilience Plan

Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

Appendix 3

Causeway Coast and Glens Borough Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Causeway Coast and Glens Compliance	99.7%	99.8%	99.9%	99.7%	99.8%	99.8%	99.7%

2024 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0104	Ballinrees North	ZN0501	Moyola Magherafelt
ZN0105	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

2024 water quality Capital Works Programmes affecting the council area:

2021 Drought Mitigation Project

A6 Dungiven Drumahoe

Abstraction Monitoring

Altnahinch Pilot Plant Study

Antrim North WIIM 2.1 Work Package

Back siphonage at WTW

Clean Water Network Modelling 2021 to 2024

Facilities Management Review

High Demand - External Modelling

NIAMP5 Project Support

Northern WRZ Resilience

Owner Controlled Insurance Programme (OCIP)

PC15 Lead Communication Pipe Replacement Programme

PC15 Year 1 Base Maintenance - Chlorine Dosing Sites

PC27 Water Treatability optimisation pilot plant

Preparation of Initial Work packages for PC21

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

Trunk main Rehab PC21 Year 1

Water Efficiency and Innovation Support Services

Water Resource & Supply Resilience Plan

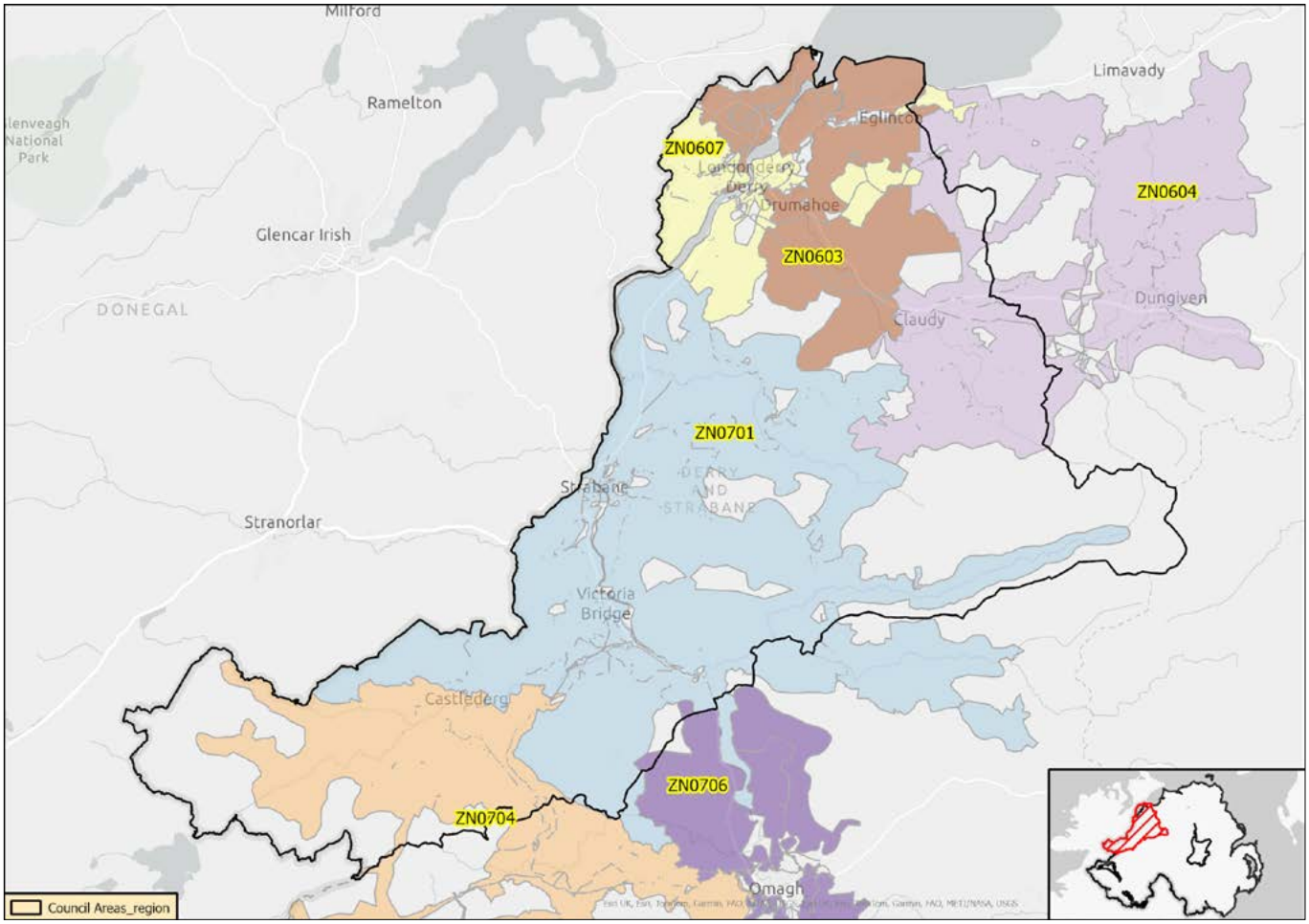
Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

WIIM Phase 2 Ballinrees Limavady WP

Appendix 3

Derry City and Strabane District Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Derry City & Strabane Compliance	99.7%	99.8%	99.9%	99.7%	99.7%	99.7%	99.8%

2024 water supply zones wholly or partially within the council area:

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

Appendix 3

2024 water quality Capital Works Programmes affecting the council area:

2021 Drought Mitigation Project

A6 Dungiven Drumahoe

Abstraction Monitoring

Back siphonage at WTW

Buncrana Road / Skeoge Link Trunk Main

Caugh Hill, Carmoney to Strabane Strategic Link Watermain

Clean Water Network Modelling 2021 to 2024

Crescent Link Trunk Main

Derg WTW MCPA PEO Undertakings

Facilities Management Review

Feasibility Study for using Groundwater Abstraction

High Demand - External Modelling

NIAMP5 Project Support

Omagh Phase 2 Watermain Rehab

Owner Controlled Insurance Programme (OCIP)

PC15 Lead Communication Pipe Replacement Programme

PC15 Year 1 Base Maintenance - Chlorine Dosing Sites

PC27 Water Treatability optimisation pilot plant

Preparation of Initial Work packages for PC21

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

Trunk main Rehab PC21 Year 1

Water Efficiency and Innovation Support Services

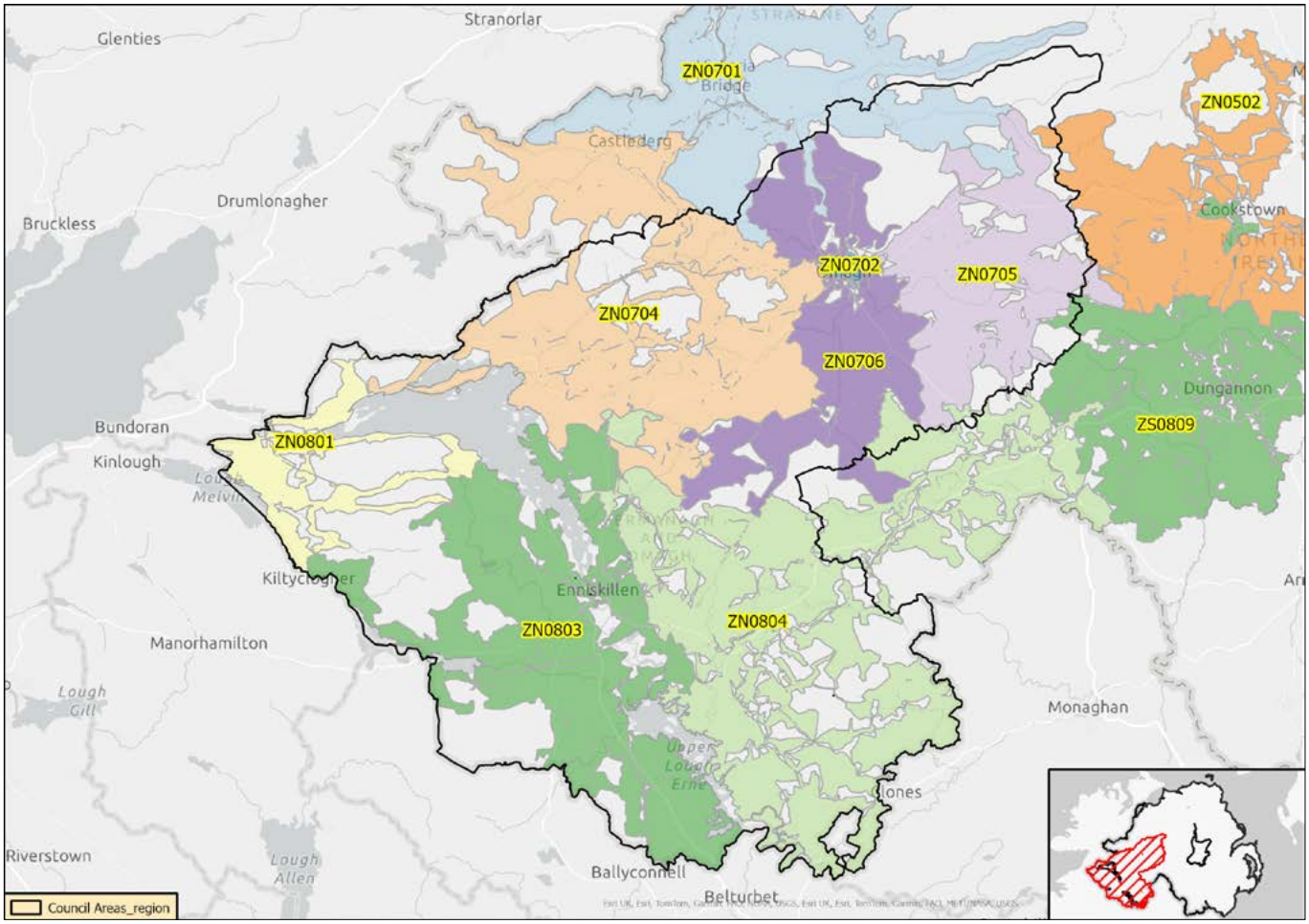
Water Resource & Supply Resilience Plan

Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

Appendix 3

Fermanagh and Omagh District Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Fermanagh & Omagh Compliance	99.7%	99.9%	99.9%	99.8%	99.9%	99.8%	99.9%

2024 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

2024 water quality Capital Works Programmes affecting the council area:

2021 Drought Mitigation Project

Abstraction Monitoring

Alleyhill to Doochrock Watermain

Back siphonage at WTW

Clean Water Network Modelling 2021 to 2024

Derg Treatability Improvements

Facilities Management Review

Fermanagh North WIIM 2.1 Work Package

High Demand - External Modelling

Killyhevlin Clear Water Tank

Killyhevlin to Cavanacross Trunk Main

NIAMP5 Project Support

Omagh Phase 2 Watermain Rehab

Owner Controlled Insurance Programme (OCIP)

PC 21 Western Resource Zone - Resilience

PC15 Lead Communication Pipe Replacement Programme

PC15 Year 1 Base Maintenance - Chlorine Dosing Sites

PC27 Water Treatability optimisation pilot plant

Preparation of Initial Work packages for PC21

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

SR - Loughmacrory Hill

Trunk main Rehab PC21 Year 1

Tyrone South WIIM 2.1 Work Package

Water Efficiency and Innovation Support Services

Water Resource & Supply Resilience Plan

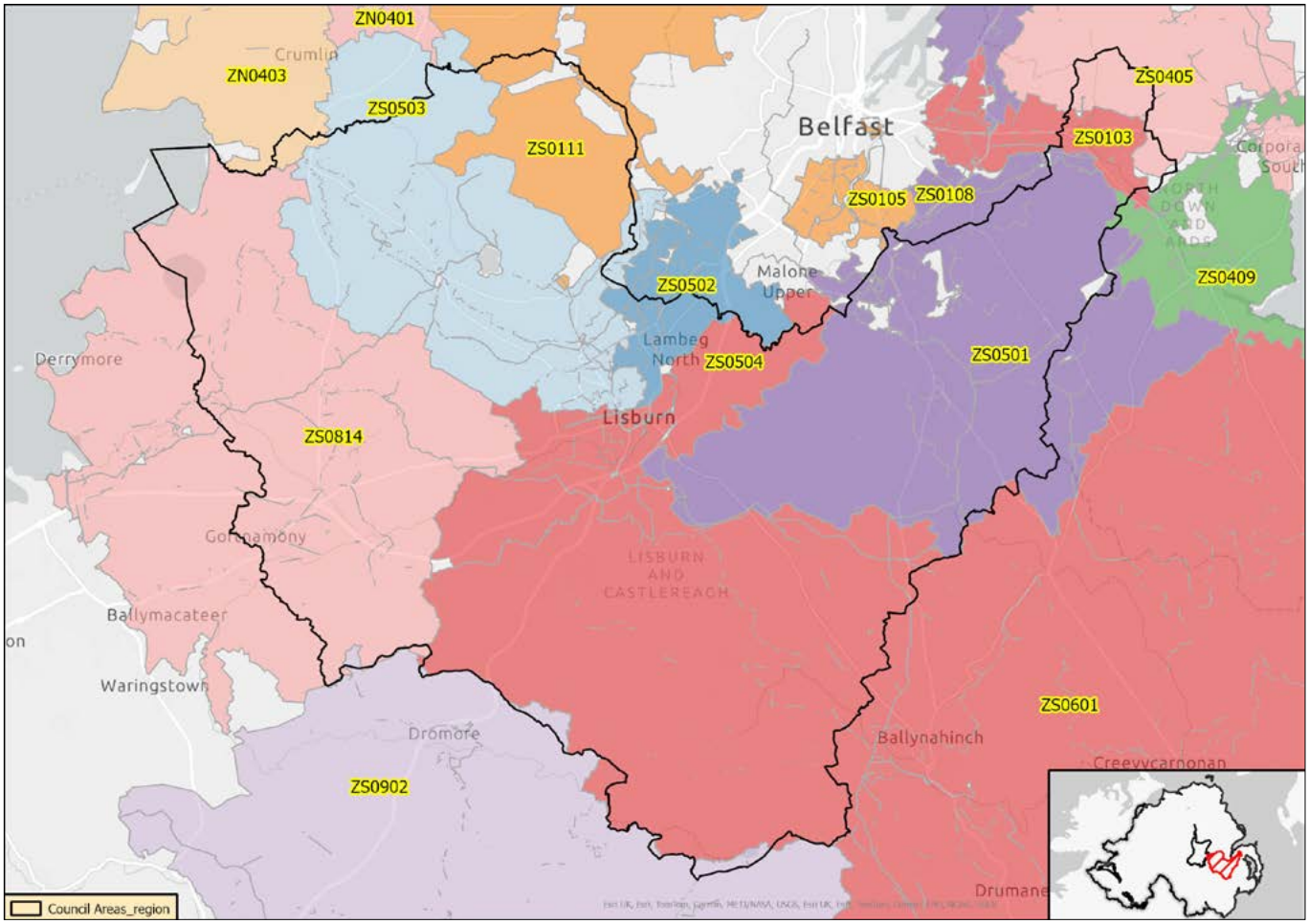
Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

WIIM Phase 2 Loughmacrory WP

Appendix 3

Lisburn and Castlereagh City Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	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%

2024 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0403	Dunore Point Crumlin	ZS0502	Poleglass Dunmurry
ZS0103	Belfast Ballyhanwood	ZS0503	Castor Bay 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

2024 water quality Capital Works Programmes affecting the council area:

2021 Drought Mitigation Project

Abstraction Monitoring

AFM Feasibility trials and filter trial unit modifications

Back siphonage at WTW

Clean Water Network Modelling 2021 to 2024

Drumaroad Treatability Improvements

Eastern Super work package Phase 2

Facilities Management Review

High Demand - External Modelling

Hillsborough Forest Park Watermain Extension

Lurgan Moira WIIM 2.1 Work Package

MIMP East (Major Incident Mitigation Project East Region) Freeze Thaw Improvements

NIAMP5 Project Support

Owner Controlled Insurance Programme (OCIP)

PC15 Lead Communication Pipe Replacement Programme

PC15 Year 1 Base Maintenance - Chlorine Dosing Sites

PC27 Water Treatability optimisation pilot plant

Preparation of Initial Work packages for PC21

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

Sprucefield Park and Ride Watermain Extension

Trunk main Rehab PC21 Year 1

Water Efficiency and Innovation Support Services

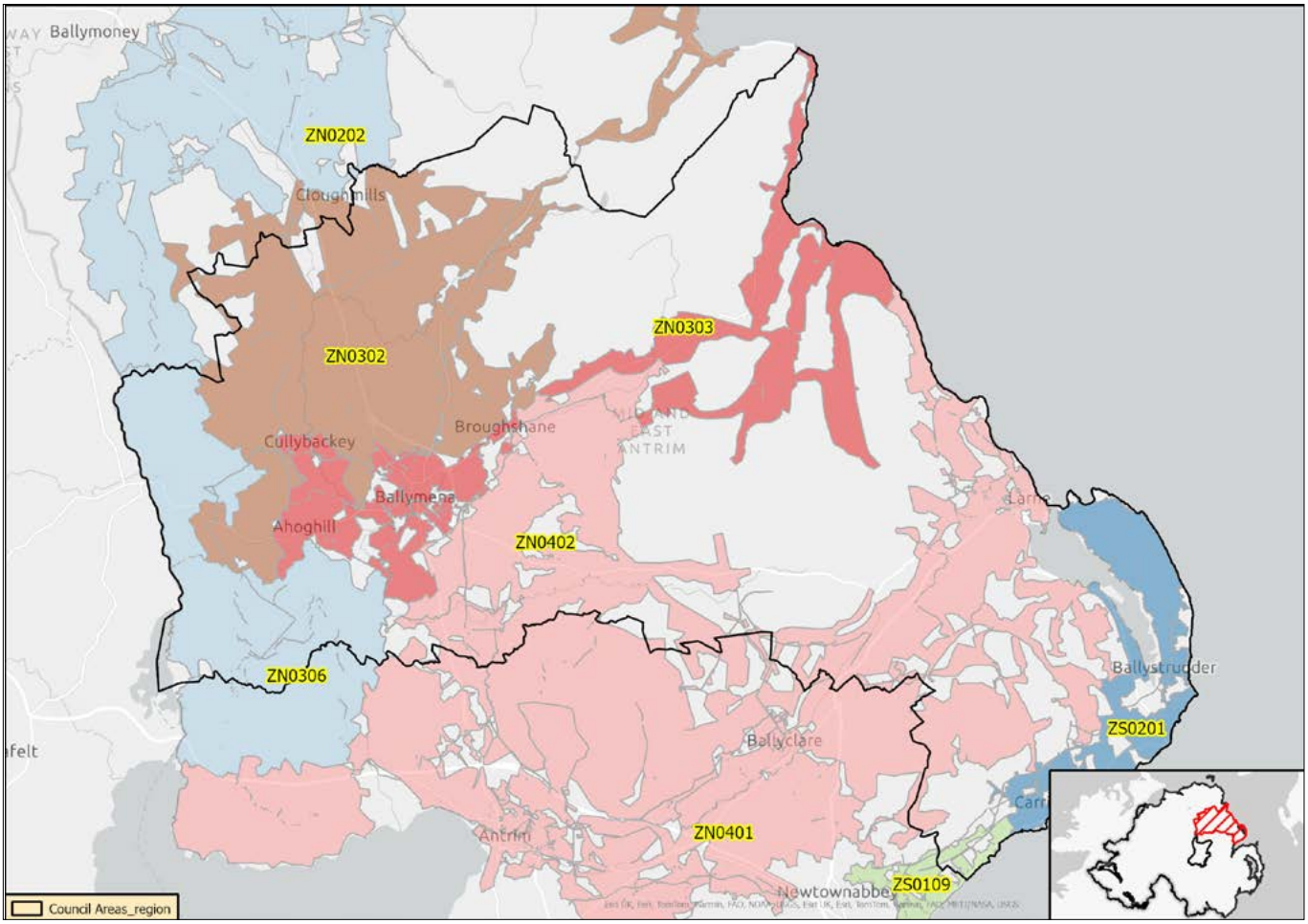
Water Resource & Supply Resilience Plan

Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

Appendix 3

Mid and East Antrim Borough Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Mid & East Antrim Compliance	99.7%	99.8%	100.0%	99.9%	99.9%	99.9%	99.9%

2024 water supply zones wholly or partially within the council area:

Zone Code	Zone Name	Zone Code	Zone Name
ZN0302	Dungonnell Glarryford	ZN0402	Killylane Ballynure
ZN0303	Dunore Point Ballymena	ZS0109	Dorisland Whiteabbey
ZN0306	Dungonnell Portglenone	ZS0201	Dorisland Carrick
ZN0401	Dunore Point Antrim		

Appendix 3

2024 water quality Capital Works Programmes affecting the council area:

2021 Drought Mitigation Project

Abstraction Monitoring

Antrim North WIIM 2.1 Work Package

Antrim South WIIM 2.1 Work Package

Back siphonage at WTW

Clean Water Network Modelling 2021 to 2024

Dorisland WTW treatability recommended improvements.

Facilities Management Review

Feasibility Study for using Groundwater Abstraction

High Demand - External Modelling

MIMP Central (Major Incident Mitigation Project Central Region) Freeze Thaw Improvements

MIMP East (Major Incident Mitigation Project East Region) Freeze Thaw Improvements

NIAMP5 Project Support

Owner Controlled Insurance Programme (OCIP)

Parkmore Water Pumping Station Relocation

PC15 Lead Communication Pipe Replacement Programme

PC15 Year 1 Base Maintenance - Chlorine Dosing Sites

PC27 Water Treatability optimisation pilot plant

Preparation of Initial Work packages for PC21

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

Professional Services Framework Watermain Network PC15

SEMD Surveys PC10 Water

Service Reservoir Security Phase 1

Trunk main Rehab PC21 Year 1

Water Efficiency and Innovation Support Services

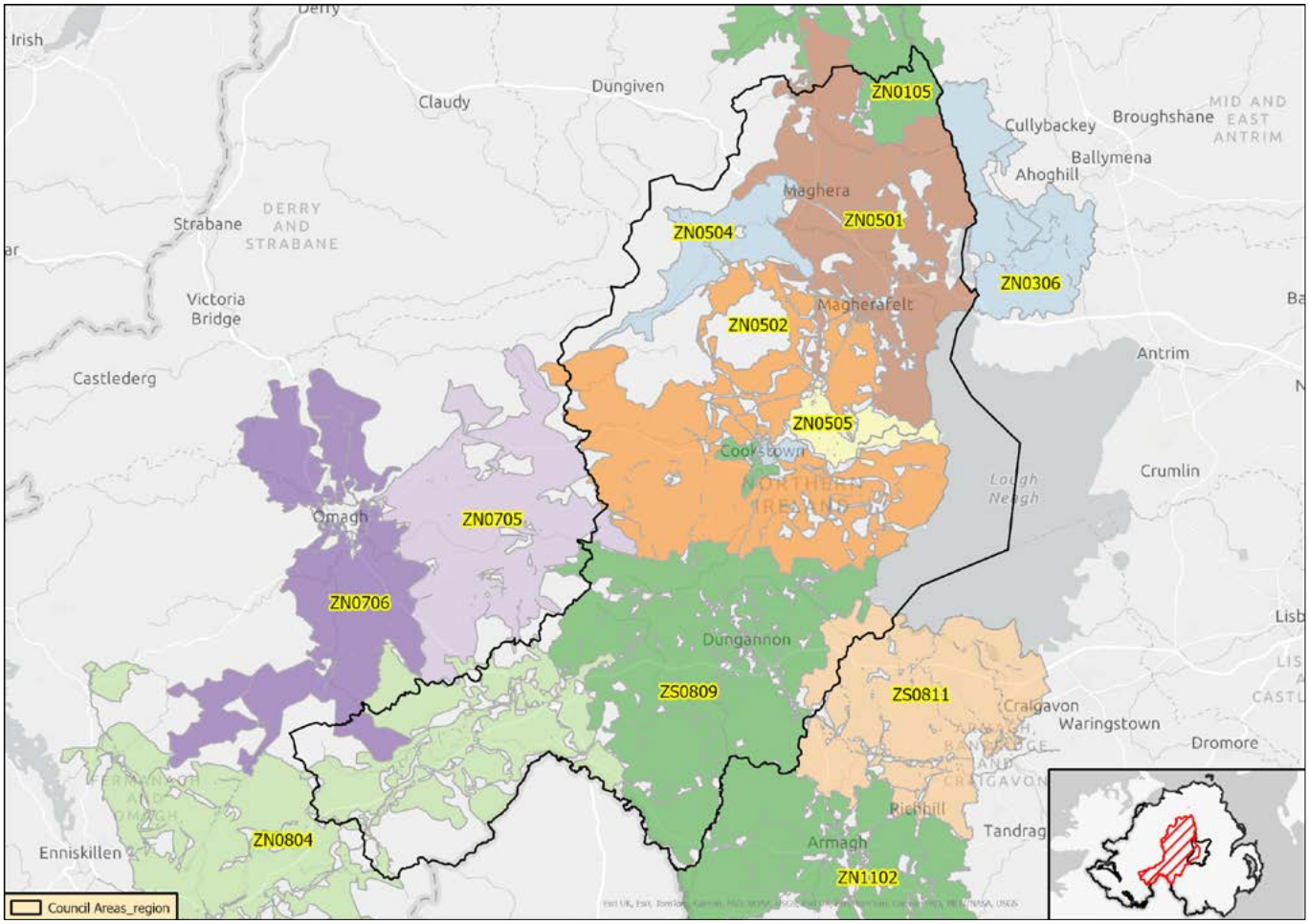
Water Resource & Supply Resilience Plan

Watermain New - Lead Pipe Replacement Programme

Watermain Rehabilitation, New & Replacement Incorporating First Time Services - Professional Fees

Appendix 3

Mid Ulster District Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%
Mid Ulster Compliance	99.7%	99.9%	99.9%	99.8%	99.9%	99.9%	99.9%

2024 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

2024 water quality Capital Works Programmes affecting the council area:

Altinure Road Park Village

Antrim North WIIM 2.1 Work Package

Back siphonage 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

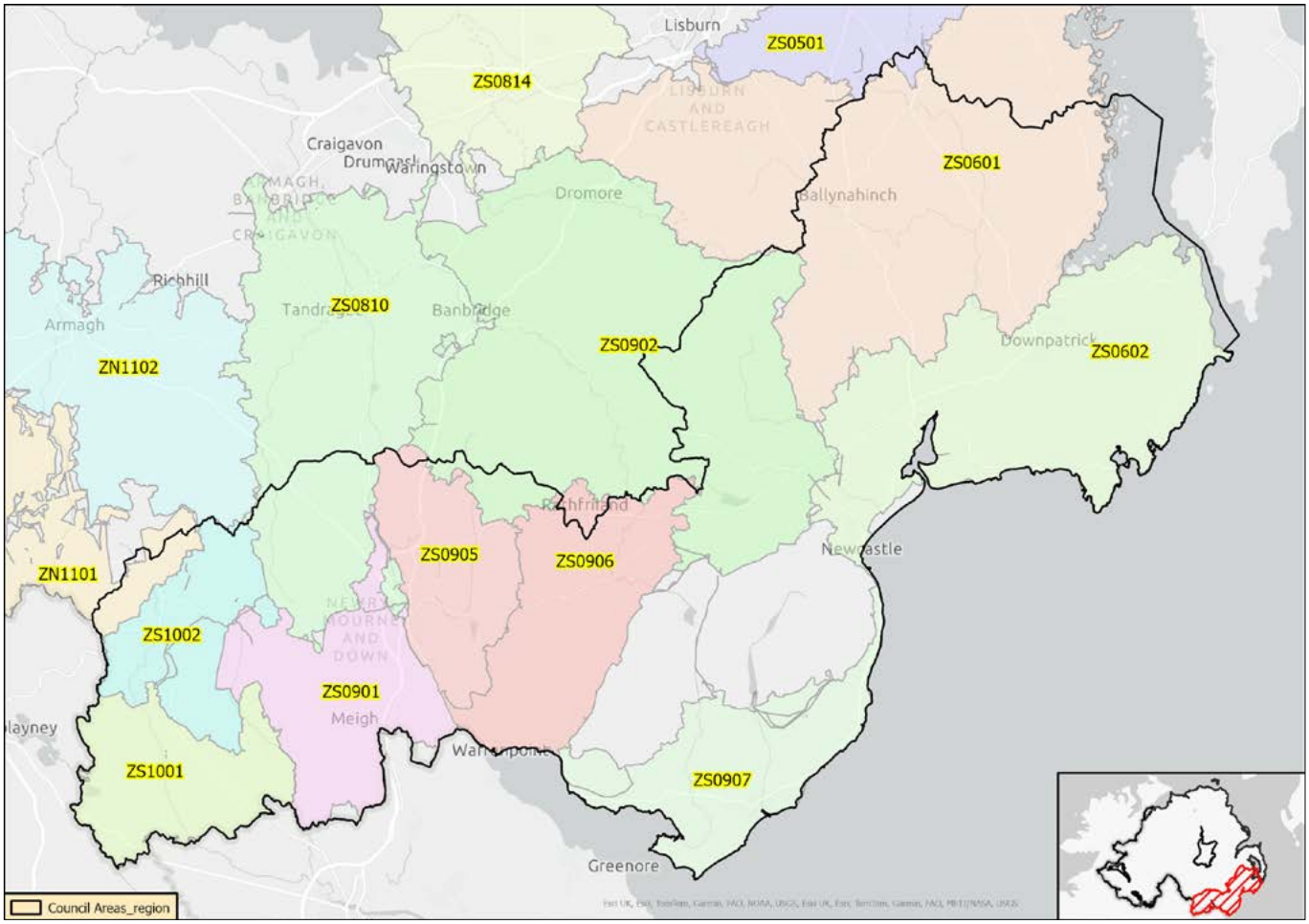
Water Efficiency and Innovation Support Services

Watermains New - Lead Pipe Replacement Programme

WTW Base Maintenance PC21 Year 1

WTW Base Maintenance PC21 Year 2

Newry, Mourne and Down District Council



Percentage Compliance at Customer Tap (including Supply Points)

	Target	2019	2020	2021	2022	2023	2024
Northern Ireland Compliance	99.7%	99.8%	99.9%	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%

2024 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

2024 water quality Capital Works Programmes affecting the council area:

Back siphonage 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 2024

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
07/09/24 – 04/10/24	Moyola WTW (53,656 population)	Algal blooms in Lough Neagh resulted in a significant deterioration in the raw water quality in Lough Neagh. The algal blooms also resulted in an increased risk for the formation of the taste and odour compounds, Geosmin and 2-Methylisoborneol (MIB) in the raw water. The Taste and Odour event is ultimately due to the significant deterioration in raw water quality in Lough Neagh. Increased levels of various species of cyanobacteria (blue-green algae) in the water also lead to an increase in the volatile metabolites they produce, in particular geosmin and MIB. These compounds produce earthy / musty tastes and odours that can be detected by humans at very low levels, measured in ng/l or parts per trillion. However, Geosmin & MIB are not a risk to human health at the extremely low concentrations at which organoleptic effects are caused; hence there is no health-based standard. The algal blooms, with associated increased levels of Geosmin and MIB compounds, led to 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. NI Water has undertaken work at the WTW to help improve removal of these taste & odour related compounds. An enhanced sampling and monitoring programme for these compounds, in both the raw and treated drinking water, is in place. A similar event occurred in 2023. DWI issued questionnaires to consumers and is considering appropriate enforcement action in relation to this event.	Antrim and Newtownabbey Borough; Causeway Coast and Glens Borough & Mid-Ulster District

Appendix 4

Serious Drinking Water Quality Events in 2024

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
12/09/24 - 03/10/24	Castor Bay WW (360,281 population)	Algal blooms in Lough Neagh resulted in a significant deterioration in the raw water quality in Lough Neagh. The algal blooms also resulted in an increased risk for the formation of the taste and odour compounds, Geosmin and 2-Methylisoborneol (MIB) in the raw water. The Taste and Odour event is ultimately due to the significant deterioration in raw water quality in Lough Neagh. Increased levels of various species of cyanobacteria (blue-green algae) in the water also lead to an increase in the volatile metabolites they produce, in particular geosmin and MIB. These compounds produce earthy / musty tastes and odours that can be detected by humans at very low levels, measured in ng/l or parts per trillion. However, Geosmin & MIB are not a risk to human health at the extremely low concentrations at which organoleptic effects are caused; hence there is no health-based standard. The algal blooms, with associated increased levels of Geosmin and MIB compounds, led to 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 Castor Bay WTW. NI Water has undertaken work at the WTW to help improve removal of these taste & odour related compounds. An enhanced sampling and monitoring programme for these compounds, in both the raw and treated drinking water, is in place. DWI issued questionnaires to consumers and is considering appropriate enforcement action in relation to this event.	Ards and North Down Borough; Belfast City; Armagh City, Banbridge and Craigavon Borough; Lisburn and Castlereagh City; Newry, Mourne and Down District; Mid-Ulster District & Fermanagh and Omagh District

Appendix 4

Serious Drinking Water Quality Events in 2024

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
10/01/24 – 12/01/24	Killylane WTW (48,323 population)	Contraventions of the aluminium parameter in the works supply area. The most probable cause was the use of a chemical past its recommended shelf-life resulting in treatment difficulties at Killylane WTW. A technical audit of Killylane WTW was carried out by DWI on 16/01/2025.	Antrim and Newtownabbey Borough & Mid and East Antrim Borough
16/01/24 – 12/02/24	Drumaroad WTW (436,350 population)	Contraventions of the aluminium parameter occurred in the works final water. There were no treatment issues at this time An investigation by NI Water identified issues with the sample point as the most likely cause.	Belfast City; Lisburn and Castlereagh City; Ards and North Down Borough; Armagh City, Banbridge and Craigavon & Newry, Mourne and Down District
22/02/24 – 23/02/24	Killylane WTW (47,057 population)	A contravention of the aluminium parameter occurred in the works final water due to short lived treatment issues following a planned shutdown at Killylane WTW. A technical audit of Killylane WTW was carried out by DWI on 16/01/2025.	Antrim and Newtownabbey Borough & Mid and East Antrim Borough
13/03/24 – 22/03/24	Drumaroad WTW (436,350 population)	Contraventions of the aluminium parameter occurred in the works supply area and elevated pH and aluminium occurred in the works final water. This was caused by a technical fault impacting the treatment process. DWI has enforcement in place to deal with aluminium contraventions at Drumaroad WTW by September 2025.	Belfast City; Lisburn and Castlereagh City; Ards and North Down Borough; Armagh City, Banbridge and Craigavon & Newry, Mourne and Down District

Appendix 4

Serious Drinking Water Quality Events in 2024

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
23/05/24 – 24/05/24	Altnahinch WTW (31,777 population)	A contravention of the coliform bacteria and E. Coli parameters occurred in the works final water. There were no treatment issues at the time. The precise cause of the bacteriological contravention was undetermined. however, it is likely that the exceedences were due to external contamination of the sample. The results are not considered to be reflective of the water quality going into supply. The sample point was replaced as a precaution as part of the investigation. Resamples taken were satisfactory.	Causeway Coast and Glens Borough & Mid and East Antrim Borough
14/05/24 – 26/06/24	Carmoney WTW (56,390 population)	Contraventions of the individual pesticide standard for MCPA occurred in the works final water on five occasions. 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. A technical audit of Carmoney WTW was carried out by DWI on 13/02/2025. DWI intends issuing a Warning Letter to NI Water in relation to this event.	Causeway Coast and Glens Borough & Derry City and Strabane District
12/05/24 – 05/06/24	Killylane WTW & Killyglen SR (47,057 population)	Treatment difficulties following a shutdown at Killylane WTW resulted in elevated aluminium in the works final water. Additionally, planned maintenance at Killyglen SR resulted in contraventions of the aluminium, iron and manganese parameters when the SR was returned to service. A technical audit of Killylane WTW was carried out by DWI on 16/01/2025.	Antrim and Newtownabbey Borough & Mid and East Antrim Borough

Appendix 4

Serious Drinking Water Quality Events in 2024

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
22/05/24 – 28/05/24	Derg WTW (40,125 population)	Contraventions of the individual pesticide standard for MCPA occurred in the works final water. NI Water completed a major upgrade to this works in 2023 following DWI issuing a Regulation 31(4) Notice in respect of pesticide contraventions. However, the new treatment process was not fully optimised at the time of the MCPA contravention to be fully effective at removing the elevated levels of MCPA which occurred in the raw water at the time of this event. The treatment process is now optimised to manage the pesticide risk. 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
09/07/24 – 16/07/24	Killylane WTW (47,057 population)	A contravention of the aluminium parameter in the works final water. There were no treatment issue identified at this time. Following investigation, NI Water was unable to identify the cause of the contravention. A technical audit of Killylane WTW was carried out by DWI on 16/01/2025.	Antrim and Newtownabbey Borough & Mid and East Antrim Borough
09/07/24 – 25/07/24	Rathlin WTW (246 population)	A contravention of the bromate standard occurred at a property in works supply area. There were no treatment issues identified at the time. Following investigation, NI Water was unable to identify a specific cause, however it was noted that the sample was taken at an outside tap at a property which was unoccupied at the time. Resamples were satisfactory.	Causeway Coast and Glens Borough
06/08/24 – 09/08/24	Ballinrees WTW (116,868 population)	A contravention of the odour parameter occurred in the works final water; the cause was undetermined. DWI has enforcement in place to deal with taste & odour contravention at Ballinrees WTW by December 2024. The new treatment process for taste & odour removal is now fully operational.	Causeway Coast and Glens Borough; Derry City and Strabane District & Mid-Ulster District

Appendix 4

Serious Drinking Water Quality Events in 2024

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
12/08/24 – 02/10/24	Killyhevlin WTW (73,516 population)	A Cryptosporidium oocyst was detected in the works final water on four occasions. The UV disinfection system for Cryptosporidium oocyst deactivation at the works was operational at the time of the detections. Therefore there was no risk to the treated drinking water quality as the oocysts detected was not considered to be viable. Filter refurbishment work has been completed at the WTW. All subsequent samples were satisfactory.	Fermanagh and Omagh District & Mid-Ulster District
08/08/24 – 11/09/24	Altnahinch WTW (31,777 population)	Contraventions of the Total Trihalomethanes (THMs) parameter occurred in the works supply area due to insufficient organics removal. Improvement work in relation to THMs at Altnahinch WTW is included in the PC21 work plan.	Causeway Coast and Glens Borough & Mid and East Antrim Borough
31/10/24 – 04/11/24	Lough Bradan WTW (43,724 population)	A contravention of the odour parameter occurred in the works final water. There were no treatment issue identified at this time. Following investigation, NI Water was unable to identify a cause. There were no consumer complaints associated with this event and resamples were satisfactory.	Fermanagh and Omagh District; Derry City and Strabane District & Mid-Ulster District
31/10/24 – 01/11/24	Drumaroad WTW (436,350 population)	Elevated aluminium occurred in the works final water due to treatment difficulties caused by a chemical dosing failure. DWI has enforcement in place to deal with aluminium contraventions at Drumaroad WTW by September 2025.	Belfast City; Lisburn and Castlereagh City; Ards and North Down Borough; Armagh City, Banbridge and Craigavon & Newry, Mourne and Down District
15/11/24 – 18/11/24	Drumaroad WTW (436,350 population)	Elevated aluminium occurred in the works final water due to treatment difficulties caused by a chemical dosing failure. DWI has enforcement in place to deal with this issue by September 2025.	Belfast City; Lisburn and Castlereagh City; Ards and North Down Borough; Armagh City, Banbridge and Craigavon & Newry, Mourne and Down District

Appendix 4

Serious Drinking Water Quality Events in 2024

Date of Serious Event	Area and Estimate of Population/ Properties Potentially Affected	Nature and Cause of Serious Event	Associated Council Area(s)
25/11/24 – 27/11/24	Drumaroad WTW (436,350 population)	A contravention of the aluminium parameter occurred in the works final water due to treatment difficulties caused by a technical fault. DWI has enforcement in place to deal with aluminium contraventions at Drumaroad WTW by September 2025.	Belfast City; Lisburn and Castlereagh City; Ards and North Down Borough; Armagh City, Banbridge and Craigavon & Newry, Mourne and Down District
11/12/24 – 20/12/24	Caugh Hill WTW (77,183 population)	Contraventions of the turbidity, aluminium, iron, and manganese parameters in the works final water and related supply area caused by treatment difficulties. Rezoning of water in the distribution area was undertaken to reduce the impact to customers supply at the time.	Causeway Coast and Glens Borough & Derry City and Strabane District
15/04/24 - 07/10/24	Gelvin Grange Laboratory	An increase in bacteriological contraventions reported in 2024 led to an investigation of the microbiological analysis at the Gelvin Grange laboratory. Environmental contamination of microbiological samples was identified as the cause of the contraventions. Consequently, samples were transferred to the Westland House laboratory for analysis from 22/10/2024. Following completion of remedial work and satisfactory sterility testing microbiological analysis was transferred back to the Gelvin Grange laboratory from 18/11/2024.	Causeway Coast and Glens Borough; Mid-Ulster District; Mid and East Antrim Borough; Derry City and Strabane District & Fermanagh and Omagh District

After investigations during the reporting period, there were also three events categorised by DWI as “Minor”, and 24 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)

	Number (by calendar year)					
Description	2019	2020	2021	2022	2023	2024
Total number of Domestic and Non-Domestic Inspections	1,279	709	569	410	926	1,305
Total number of active Contraventions recorded in reporting year	1,144	510	446	948	2,723*	3,787
Total number of closed Contraventions in reporting year	896	381	286	1,102	1,573*	3,496
Total Number of outstanding contraventions in reporting year	248	129	160	469	1,065*	1,333

* 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)
- Reduced Pressurised Zone valve 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 NIWL during 2024.

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 20 notifications relating to aspects of water fittings were received during the 2024 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
Jan-24	16 RATHMENA GARDENS, BALLYCLARE, BT39 9HU
Mar-24	41 MOSSVALE ROAD, NEWTOWNABBEY, BT36 4TT
Mar-24	32 HOPEFIELD AVENUE, PORTRUSH, BT56 8HB
Mar-24	64 Blackthorn Manor, Derry, BT57 5ST
Apr-24	57 SHEARWATER WAY, LONDONDERRY, BT47 6LG
Apr-24	56 HILLVIEW PARK, ENNISKILLEN, BT74 6EU
May-24	28 CASTLEWARD ROAD, STRANGFORD, BT30 7LU
Jun-24	6 GLENSHESK PARK, PORTRUSH, BT56 8BQ
Jul-24	308A DRUM ROAD, COOKSTOWN, BT80 9PT
Jun-24	18A NEWRY STREET, MARKETHILL, BT60 1TA
Jun-24	154 AGHORY ROAD, CRAIGAVON, BT62 3SX
Jul-24	38 FINEGANS ROAD, NEWRY, BT35 8SR
Aug-24	Dwelling At 105a, 105A CREGGAN ROAD, OMAGH, BT79 9BT
Aug-24	26A ALTADAVEN ROAD, AUGHER, BT77 0EN
Aug-24	57 Shore Road, Magheramorne, Larne, BT40 3HW
Aug-24	166 Dunhill Road, Coleraine, BT51 4JQ
Aug-24	7 PEARSE GARDENS, STRABANE, BT82 9AS
Sep-24	65A DROMORE ROAD, OMAGH, BT78 1RB
Sep-24	Ard-Croft, 10 BACKHILL ROAD, EGLINTON, BT47 3JS
Sep-24	68 WINDYHILL ROAD, ARTIKELLY, BT49 0QZ
Sep-24	8 AGHINLIG ROAD, MOY, BT71 6SP
Sep-24	14 LANGTRY LODGE, MOIRA, BT67 0GT
Oct-24	51 DRUMEARN ROAD, COOKSTOWN, BT80 9QN
Oct-24	43 BERNISH ROAD, NEWRY, BT35 8PZ
Nov-24	2 HOLLY HILL, CRAIGAVON, BT66 7UB
Nov-24	24 KILLYMUCK ROAD, KILREA, BT51 5UB
Nov-24	256 BUSH MANOR, ANTRIM, BT41 2UR
Dec-24	116 GARDINERS CROSS ROAD, MAGUIRESBRIDGE, BT94 4QB

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

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

Appendix 6

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

Appendix 6

Toxicology	The study of the health effects of substances
Treated water	Water treated for use for domestic purposes as defined in the Regulations
Trihalomethanes (THMs)	AA group of organic substances comprising, for the purposes of the Regulations, four substances: trichloromethane (also known as chloroform), dichlorobromomethane, dibromochloromethane, and tribromomethane
United Kingdom Accreditation Service	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
Utility Regulator	The Northern Ireland Authority for Utility Regulation (NIAUR)
WDPD	DfI Water and Drainage Policy Division. Deemed to be the Regulator for all activities associated with the Water Supply (Water Fittings) Regulations (NI) 2009
WRAS	The Water Regulation Advisory Scheme. A list of Standard Industrial Classification codes with related fluid categories used to define categories of non-domestic properties
Water Regulations	The Water Supply (Water Fittings) Regulations (NI) 2009
Water Safety Plan	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
Water supply zone (Zone)	The basic unit of supply for establishing sampling frequencies, compliance with standards and information to be made publicly available
Website	Location of information on the Internet. NI Water's website is: www.niwater.com
Weed-wiping	Weed treatment method wiping the top of weeds using a roller or wicks infused with pesticide
Wholesomeness	A concept of water quality that is defined by reference to standards and other requirements set out in the Regulations