



Fofanny clear water tank under construction, County Down.

Strategic areas of focus



Sustainable development goals



Principal threats/opportunities



Page 84 Read more about principal threats and opportunities.

Strategic performance indicators

Water	Unit of measurement	Target 2023/24	Actual 2023/24	Pass/Fail	Target 2024/25
Water quality compliance*	%	99.83	99.92	Pass	99.83
Leakage	Million litres/day (Ml/d)	154	155	Fail	153
Reduction in supply interruptions in excess of: **					
• 6 hours	%	0.669	0.192	Pass	0.650
• 12 hours		0.084	0.000	Pass	0.080
• 24 hours		0.009	0.000	Pass	0.010

* Calendar year target.
 ** The >12 hr target is a Final Determination target. The >6hr and >24hr targets feed into the Supply Interruptions Overall Performance Score, which is also a Final Determination target.

Improve at source

The raw water we use to produce our high quality drinking water is predominantly taken from Lough Neagh, local rivers and a range of upland sources, all of which are rich in natural organic matter. We continually monitor the raw water entering our water treatment works and adjust the treatment process accordingly. Increasing levels of organic matter in raw water, as well as fertilisers and herbicides, place a strain on our water treatment works. While investment in our treatment works to install complex energy and chemical intensive processes can remove the problem, the sustainable long-term solution is to work in partnership with farmers, land owners and other stakeholders to manage the source waters using catchment management. Working together, we can improve the water quality before it even reaches the water treatment works which benefits the natural environment and biodiversity and can reduce our operating costs, especially when resources are pooled with stakeholders to access funding.

Restoring our peatlands

Our drinking water catchments amount to over 12,000km², with NI Water owning around 112km². Our greatest opportunity for successful catchment management is in these areas, which are often upland and dominated by peat and heathland. When functioning correctly, peat bogs provide multiple ecosystem services, including water quality improvement, flood mitigation, habitat, societal benefit, and carbon storage. Unfortunately, many of our bogs are in poor condition and have dried out.

Our peatland restoration programme began in 2014 on our Dungonnell catchment in the

Antrim Hills, with over 500ha of blanket bog now actively restored there, filtering cleaner raw water into our reservoir and the bog beginning to function again. In 2023/24, we completed a management plan for a further phase of peatland restoration work at Garron Plateau, which we aim to complete via an externally funded project in partnership with RSPB NI over the next 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 project was the first in Northern Ireland to be registered under the IUCN Peatland Code and will cover four compartments in an area of almost 2,000ha. Over a 30-year period this site has the potential to achieve a reduction of 48k tonnes of carbon, leading to significant claimable emissions inset.

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. A peatland restoration plan for Lough Bradan was completed in 2023/24, in preparation for practical works being carried out to restore 28ha of previously forested land to functioning peat bog in 2024/25. Commercial forestry planted on peat in our catchments increases erosion of carbon into our reservoirs. Removal of trees and restoration helps improve water quality and slow overland flow, keeping peat in the bog where it belongs. This project will see a range of forest-to-bog peatland restoration techniques trialled, to inform future projects.

Forestry operations to fell trees adjacent to Lough Bradan reservoir, County Down.



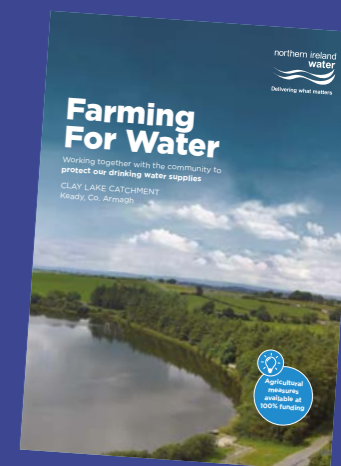
Farming for water

Pressures arise on our water resources from various sectors with agriculture being one of the major pressures. Our Farming for Water scheme focusses on reducing the amount of the herbicide MCPA, nutrients and soil getting into the watercourses connected to Clay Lake, which provides drinking water for Keady, County Armagh and is also part of the Lough Neagh catchment. The scheme provides 100% funded measures for farmers within the catchment area to make environmental/water quality improvements or their farm business to improve raw water quality. We have around 30 farms signed up for the scheme, around 4km of watercourse fencing installed, six pesticide storage cabinet and spill kits delivered, eight angler access points installed, 14 mains drinkers installed and four solar drinkers installed.

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, which will reduce risk of accidental chemical pollution incidents and use of banned chemicals in these catchments which experience raw water pesticide challenges. Previous schemes in 2022/23 removed over 1,800 litres of unwanted chemicals in 733 containers from the Derg catchment. 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 pesticides best practice.

We continue to promote best practice pesticide use in our catchments as members of the Water Catchment Partnership. Over 2023/24, we partnered with upland graziers in our Mourne water catchments to manage sheep grazing for water quality and habitat protection. This work was supported by designated site protection, heathland surveying, invasive species control and wildfire mitigation. Additionally, NI Water are Associate Partner in an upcoming Peace Plus-funded project focussing on the development of restoration plans for damaged peatland in the High Mourne. We continue to be active members of the Forever Mourne Partnership, attending Steering and Working groups to plan and implement delivery of the recommendations from the Mourne Community Renewal Through Nature project.



One million trees

We are engaging with The Woodland Trust and Forest Service to deliver our large-scale tree planting scheme on our landholding to plant one million trees on over 500 hectares of land by 2030. The scheme is part of our wider plans to help tackle climate change and create a more sustainable future for Northern Ireland.

We are almost a quarter of the way there, and we believe we have an important role to play in helping to build the green economy and restore biodiversity. Around 220,000 trees have been planted at Annalong, Fofanny, Dunore and Stoneyford. For the 2024/25 planting season, we have secured funding from DAERA Forest Service to draw down from Forest Expansion Scheme funding to plant around 250,000 across 139 hectares on our land near Woodburn reservoir in Carrickfergus, County Antrim.



NI Water CEO, Director of the Woodland Trust Northern Ireland and NI Water Project Support Officer at Stoneyford Reservoir, County Antrim.

 <https://youtu.be/9f61W6NsMpI>

Tapping into EU funding

Following on from the successful delivery of the EU INTERREG VA funded Source to Tap project and our involvement in the Cooperating Across Borders (CABB) project, NI Water is pursuing funding under the Peace Plus Programme for both biodiversity and water catchment projects. Working in partnership with other organisations, bids are being prepared over 2024/25 for submission to the Special EU Programmes Body (SEUPB). These projects will provide a mechanism to collaborate with partner organisations to sustainably manage our drinking water catchments and contribute to water quality improvements over PC21 and into PC27.

Enough water for all

The Water Resource and Supply Resilience Plan sets out how NI Water intends to sustainably maintain the balance between supply and demand for water over the long-term, and the operational and management options and activities available to respond to short-term critical events such as droughts and freeze-thaw issues. The latest draft of the Plan forecasts supply demand deficits in five of the ten Water Resource Zones during summer peak conditions, with four of the zones identified as currently in deficit today. The draft Plan has identified several mitigations to resolve these deficits, and these include the upgrade of both Moyola and Clay Lake water treatment works and new boreholes near Dungannon (Gortlenaghan) and Lisburn (Lagan

Valley). The draft Plan has been issued for consultation and will be updated based on responses with the final Plan to be published in 2024/25.

Several new projects and operational interventions were completed in 2023/24, which have improved current supply/demand and resilience issues. This included new clear water basins at Seagahan and Fofanny water treatment works and the upgrade of Derg water treatment works. Further work over 2024/25 includes the progression of the strategically important Castor Bay to Ballydougan project, which will facilitate transfer of additional flow from Castor Bay to Ballydougan and the construction of new Granular Activated Carbon filters at Ballinrees water treatment works.

Summer demand spike

Extreme weather, hot or cold, can have a major impact on assets, causing increased leakage within our network and on customer properties. Our changing climate is bringing more frequent and severe weather events such as heavy rainfall, heatwaves and extreme cold. These events can affect the quality and quantity of our water sources, placing pressure on our water treatment works. In June 2023, as warm temperatures persisted across Northern Ireland, demand for water rose around 15% to 700 million litres per day. Our focus was to keep customers in supply, especially in the west and south. This required extensive tankering operations between Carryglass, Dungoran, Dromore High and Clay Lake.



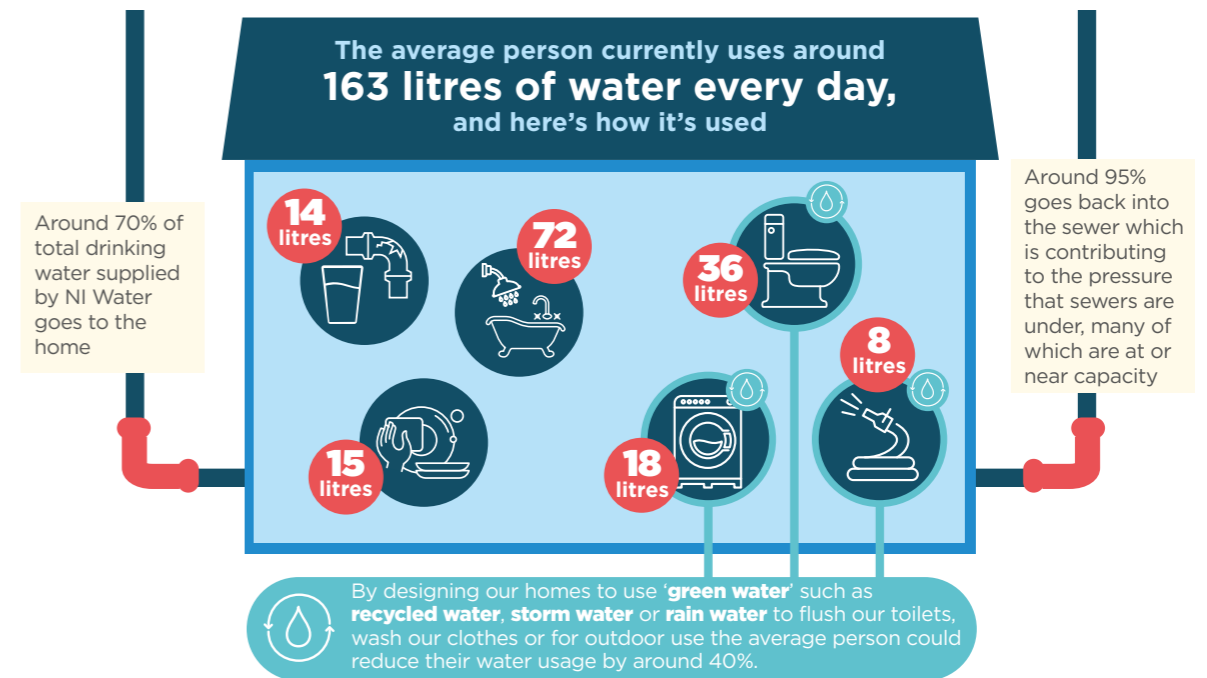
Clay Lake impounded shallow freshwater lake, County Armagh.

Using less drinking water

By better designing our homes we could reduce the total demand for drinking water by around 25%. Further reductions in demand can be achieved by installing more water efficient appliances in the home and changing our behaviours e.g., shorter showers. By using less, we can lower our

carbon footprint, improve biodiversity, reduce leakage, increase resilience, and ease pressures on our sewerage infrastructure.

Find out more at www.niwater.com/water-saving/



Pumping £9m into County Down

In 2023/24, we completed a £9m investment to improve the security of the water supply for around 76,000 customers in large parts of County Down. The upgrade at Fofanny water treatment works involved the construction of a new water storage tank with a capacity of 10 million litres, equivalent to four Olympic

size swimming pools or 50,000 baths! The upgrade will provide additional water supply to customers, particularly during high demand emergency situations, when we may need additional time to shut down the main plant, while we complete other planned maintenance to our water supply network.



NI Water's Director of Infrastructure Delivery, staff and contractors pictured at the new Fofanny clear water tank, County Down.

Tasty, clean and safe

Delivery of great tasting, clean and safe drinking water is central to what we do. It underpins the public health and economy of Northern Ireland.

World class water on tap

The water we supply for domestic use or food production must comply with UK national standards. The standards are strict and generally include wide safety margins. They cover: bacteria; chemicals such as aluminium, lead and pesticides; and how water looks and tastes. To make sure that your drinking water supply is tasty, clean and safe, we take samples for testing. Sampling and analysis of drinking water is carried out 365 days per year. Our sampling programme covers raw waters, water at various treatment stages, treated water going into supply from our treatment works, drinking water in the distribution system and at the customer tap. Samples are analysed by our scientists based in laboratories at Belfast and Altnagelvin. Overall drinking water quality compliance in 2023 was 99.92%, above the target of 99.83%. We publish a Drinking Water Quality Report each year at <https://www.niwater.com/publications/>.

We continue to engage with the DWI on potential changes to the Drinking Water Regulations, in line with European standards and have put in place a monitoring programme of sampling and analysis for potential new parameters.

Blue green algae

Blue-green algae is not actually an algae but rather a type of bacteria called cyanobacteria, which naturally inhabit our freshwater, coastal and marine waters and, like plants, require sunlight, nutrients, and carbon dioxide to grow and reproduce. The growth of blue green algae in Lough Neagh is attributable to several factors, including the presence of invasive zebra mussels, which filter the water allowing more sunlight to penetrate deeper into the Lough. Sunlight combined with the presence of nutrients, plus the recent warm weather has seen unprecedented levels of algae growth.

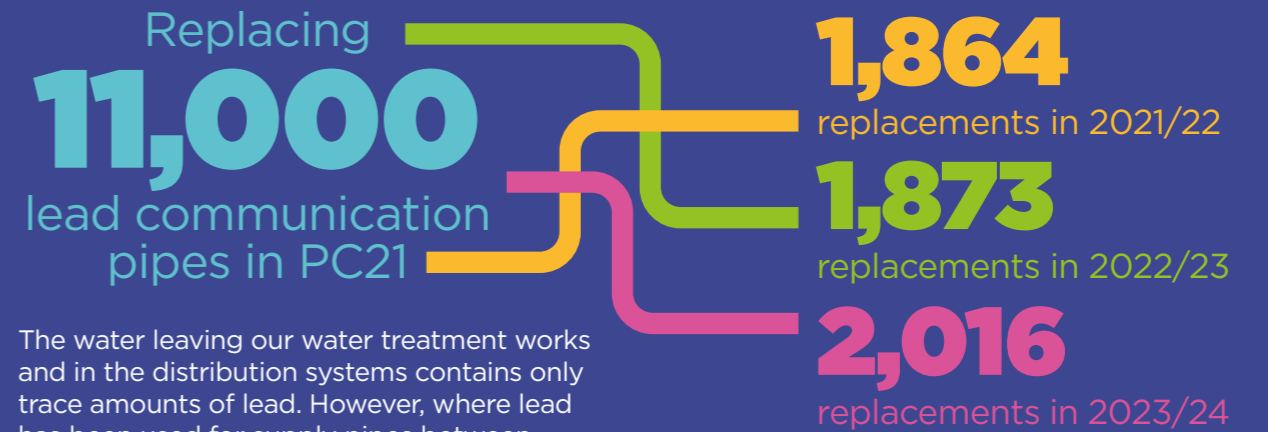
Nutrients in the water bodies are derived from multiple sources: key sources include run-off from agricultural land, industrial, agri-food and wastewater discharges (both public and private septic tanks). Agriculture run off and unregistered private septic tanks are unregulated and high in nutrient content. In agriculture, nutrients are applied in the form of artificial fertilisers and slurry/manure derived from livestock. During rainfall events, this practice may lead to nutrients being washed directly into the waterbody before being assimilated into the soil/grass. In public wastewater discharges, the levels of nutrients are controlled by ammonia and phosphorus limits being applied to the discharge via the Water Order Consent, which is regulated by the NIEA. A similar regulatory approach will be applied to industrial discharges by NIEA.

Management of the Lough is a multi-agency responsibility and like other catchments, there is a complex range of pressures across multiple sectors impacting on the water quality. NIEA have responsibility for monitoring the raw water quality in the Lough.

Lough Neagh, County Antrim.



Tackling lead pipes



The water leaving our water treatment works and in the distribution systems contains only trace amounts of lead. However, where lead has been used for supply pipes between the water main and the kitchen tap or in domestic plumbing, there is a risk of non-compliance at the customers' tap. So even with the removal of all lead pipes within our network there will be a risk to lead compliance from lead pipe remaining within customer properties.

Our aim is to deliver water, which meets the lead standard and regulations, whilst working towards a lead free water supply. We tackle the problem in two ways:

1. By chemical treatment to reduce the amount of lead that dissolves from lead pipes into the water; and
2. The replacement of lead communication pipes that connect customer properties to the watermain in our distribution network.

Information for customers on lead in drinking water and lead pipe replacement is available through our website and in our lead leaflet.

We continue to engage with stakeholders concerning the potential options for consideration in relation to addressing lead in private supply pipes.

Find out more about reducing the risk of lead at:

https://www.youtube.com/watch?v=9k9FIO_FcZE

<https://www.youtube.com/shorts/NCOkobnjwjl>

Is your house older than 1970? Then you might have lead water pipes

Lead pipework was used in many houses built in Northern Ireland before 1970 and much of it still exists. Lead pipework may result in lead levels in your drinking water which are above the limits set out in drinking water regulations.

How you can find and deal with lead pipes?

- Look in or behind the cupboards in your kitchen; Find the pipe leading to the kitchen tap;
- Open the stop valve box outside your property. If you can, scrape the surface of the pipework inside the box gently.
- 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, you will see the shiny, silver-coloured metal beneath.
- Other pipe materials 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.

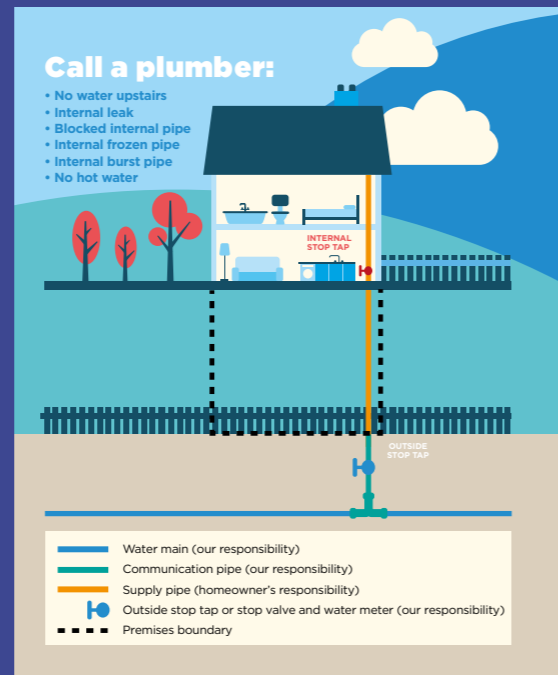
Drive down leakage

NI Water is committed to driving down levels of leakage in our drinking water network. Leakage teams are continually working around the clock locating and repairing leaks to maintain customer supplies. Our leakage detection teams cover around 27,000km of water mains and 24,000km of smaller diameter pipework serving Northern Ireland's individual households and businesses. Our network is greater than the distance around the earth (around 43,000km).

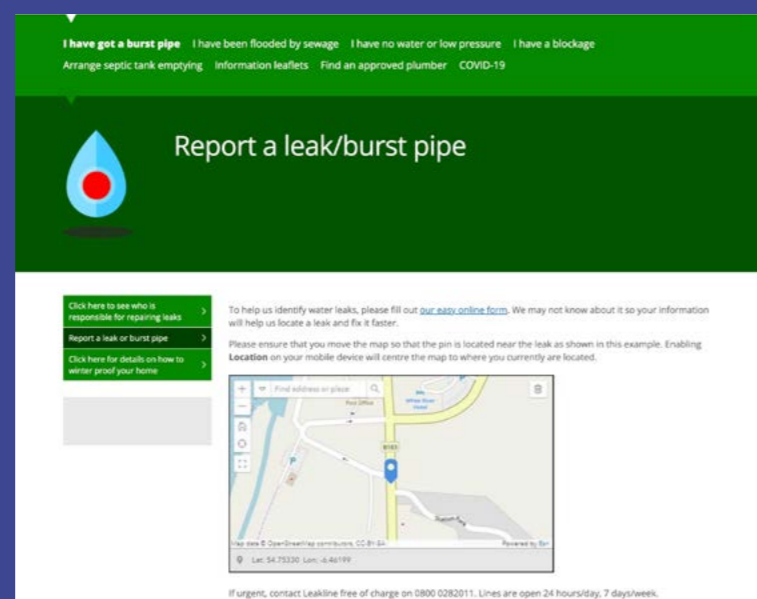
In 2023/24, NI Water reported its lowest ever level of leakage at 155 million litres per day against a target of 154 million litres per day. This reduction has been achieved despite Northern Ireland experiencing the highest recorded levels of rainfall and the highest average annual temperature.

More frequent weather extremes are having a significant impact on reducing leakage. NI Water continues to advance its capabilities using highly skilled leakage detection and repair teams. We deploy a variety of leakage detection techniques including listening sticks, ground microphones, acoustic loggers, drones, satellites, and dogs. We also monitor flows and pressures on our infrastructure. The combination of traditional and new approaches to leakage management will be used to drive down leakage over the remainder of PC21. We aim to achieve the economic level of leakage of 150 million litres per day by 2027. This is the level at which the costs of reducing leakage further outweigh the benefits.

A quarter of our leakage is within the boundary of a customer's property. If there is a leak on your property, then please get it fixed. You can ask your home insurer for assistance or NI Water for advice.



If you see a leak on the road or footpath, NI Water needs your support in reporting leakage by visiting <https://www.niwater.com/report-a-leak-or-burst-pipe/> or by calling our dedicated Leakline number on **0800 028 2011**, open 24 hours a day, every day. Calls are free of charge.



Always on

Every week we are repairing bursts that occur on our water network of 27,000km of water mains. Many of these bursts can result in interruptions to customers' supply or customers experiencing low water pressure.

Every minute counts

Our 'every minute counts' ethos helps to focus on ways to improve our performance and explore innovative solutions to minimize the time customers are off supply and keep them in supply with water. We continued to implement our interruption to supply strategy over 2023/24, achieving record reductions in 'lost minutes per property'. A second Mobile Booster Trailer has been purchased and delivered to allow for greater resilience in our response to unplanned interruptions, as well as greater opportunity to keep customers in supply during planned shutdowns.



NI Water's second mobile booster trailer.

Our SMART networks programme helps to maintain a CALM network and increase visibility on all our water assets. Creating a calmer network reduces transients that can cause bursts and interruptions. Over 2024/25, we will be improving controls at water booster stations and using our new

digital tools as well as data analytics through our SMART network to monitor and control our field operations. By 2027, we plan to install telemetry at 26 booster stations, enabling visibility and real time pressure control over 400km of pumped water mains, spanning around 7,500 properties.

Visit <https://www.niwater.com/current-service-updates/>



Current service updates
Real-time information on repairs and supply interruptions across our network, updated daily.
[Learn More](#)

