

Storm overflows

What are they and when do they operate?

On behalf of the public:

- We collect wastewater from **736,000 households & businesses**.
- Treat and return wastewater safely to the environment through **1,029 Wastewater Treatment works**.
- Maintain and operate **16,856km of pipes** and **515,094 manholes** in Northern Ireland's sewer network.

Why do we have storm overflows?

Most modern property developments now have separate drainage systems where foul water from kitchens and bathrooms goes to the wastewater system (sewer) while rainwater from roofs and driveways goes to a separate storm drain and off into a nearby watercourse.

However, in common with many other places, most homes and businesses in Northern Ireland are served by what is called a combined sewer system. This means foul water (including sewage) from within homes and businesses is mixed with rainwater as it makes its way to our treatment works.

What is a storm overflow?

During times of heavy rainfall, large volumes of this storm water will enter the system and cause it to become overwhelmed in places.

Storm overflows exist so wastewater can be released to designated waterways if the system is at risk of being overloaded during times of heavy rainfall. Without storm overflows many more properties would be flooded with wastewater.

When do storm overflows operate?

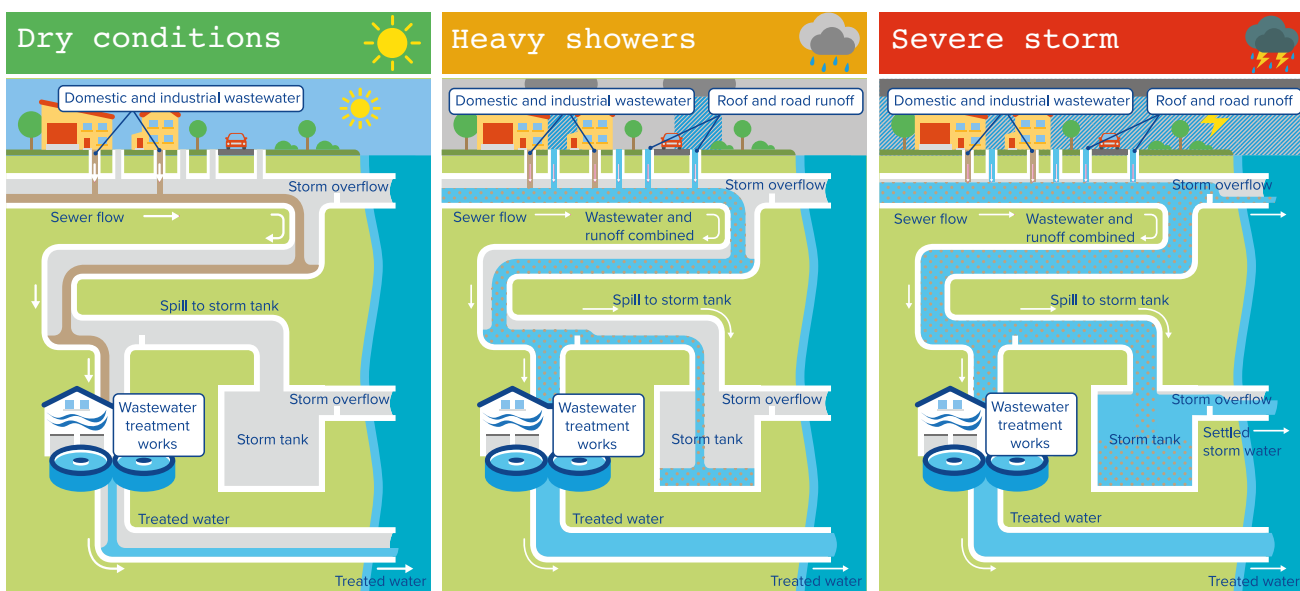
Storm overflows primarily operate as a form of pressure relief valve during times of heavy rainfall. Whilst storm overflows exist, some may not operate at all for many months whereas others might operate routinely when it rains.

Storm overflows can also spill during periods of sustained rainfall when the storage within the system is not sufficient to manage the volume of water arriving at the location.

Are storm overflows spilling raw sewage?

There will be some raw sewage contained in wastewater that spills from a storm overflow. During times of heavy rain, the quantity of raw sewage in wastewater is greatly diluted by rainfall. The NI Environment Agency (NIEA) set specific consent standards for each of our storm overflows to protect the receiving waterway.

How sewers are impacted by different types of weather.



How much sewage does NI Water put into our waterways each year?

The quantity of untreated sewage contained within wastewater that spills from a storm overflow during heavy rainfall depends on several factors, such as the volume and intensity of the rainfall, the capacity and design of the local sewer system, and the amount and type of pollutants in the sewage. It is therefore difficult to give a precise or universal answer to the question of how much raw sewage is contained in the wastewater that is discharged, but we estimate around 1-2% of what is split is raw sewage.

We know that in general during periods of heavy rainfall, the sewage discharged is heavily diluted and will be further diluted when it enters adjacent water bodies which are themselves also receiving large volumes of additional rainwater.

Can storm overflows be removed?

If storm overflows were simply removed, then homes and businesses would be flooded with wastewater at times of heavy rain.

NI Water is committed to ensuring that they are compliant with the standards that are set by NIEA to ensure that nature is protected. This requires appropriate funding.

How are unsatisfactory storm overflows going to be addressed?

Primarily we need solutions in place to deal with the excess volume of wastewater during times of heavy rainfall. The most effective solution is to stop storm water getting into and overwhelming our combined sewer system by separating and diverting it elsewhere, for example to a drainage point in a local park or by entering an existing water course.

Are storm overflows monitored?

As of September 2023 our corporate asset register shows we have 2398 storm overflows that are operational. They exist at different points in our wastewater system including within the network, at pumping stations and at the inlets to wastewater treatment works.

NI Water carries out manual inspections of storm overflows to assess the condition and performance of the asset. This includes checking for any signs of blockage or malfunction.

To monitor and record spills, Event Duration Monitors (EDMs) are being installed across NI Water's wastewater network in a multi-year investment programme. These measure the times when a spill is occurring and for how long.

The first phase of deployment is focused on bathing waters and shell fisheries. By June 2024 we will have many EDMs fully installed and sending reliable information back to our Alarm Management Centre. By the end of 2027, we aim to have over 900 EDMs deployed for an investment of around £20m.

NI Water will engage with NIEA, the Utility Regulator and the Department for Infrastructure (DfI) to make the case for funding to be provided to enable EDM installation at all storm overflows.

Why do storm overflows affect the ability to connect customers to the wastewater system?

Connecting new customers will increase sewage in the system. If a storm overflow is already failing the consent level set by NIEA, then this additional connection brings the risk of causing increased harm to the receiving water. Careful assessment is therefore needed for each connection on a case-by-case basis.