



***EPA OPENING STATEMENT***

**Prepared for**

**OIREACHTAS JOINT COMMITTEE**

**ON**

**HOUSING, PLANNING AND LOCAL GOVERNMENT**

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## **Introduction**

Firstly, I would like to thank the Committee for inviting the Environmental Protection Agency (EPA) to assist in relation to issues affecting water quality, drinking water quality and recent incidents at Gorey and Ballymore Eustace drinking water treatment plants. I am joined by my colleagues from the EPA: Dr Michelle Minihan (Senior Inspector), Mr Noel Byrne (Programme Manager) and Ms Mary Gurrie (Programme Manager).

As you are aware, the EPA is an independent statutory body established under the EPA Act, 1992 with a wide range of responsibilities in relation to water and water quality including:

- the drinking water quality regulator for public water supplies
- the authorisation of waste water treatment plants and the enforcement of those authorisations
- coordinating and implementing the national monitoring programme to assess and report on water quality and
- assessing the impact of human activities and pressures on the status of water quality.

The EPA publishes reports annually on these and other water related activities in a series of reports.

This opening statement addresses briefly:

- the current status of water quality generally in Ireland and the associated pressures
- the current environmental priorities in relation to waste water treatment
- the current challenges in relation to the provision of drinking water services
- and then more specifically, the recent failures at drinking water treatment plants in Ballymore Eustace and Gorey

## **Water Quality in Ireland**

Clean water is essential for our health and wellbeing, our economic activities, and our wildlife. The EPA's data and evidence are showing us that overall water quality in Ireland is under significant pressure from human activities such as agriculture, physical changes such as land drainage and reclamation, forestry, and waste water.

Nearly half of the surface waters in Ireland are in unsatisfactory condition because of pollution and other human disturbance. This means that a large number are unable to sustain healthy ecosystems. The scale of declines that we are observing in recent years is off-setting the improvements being made in other areas and hampering progress towards improving overall water quality.

One of the main problems damaging the quality of surface waters is nutrient pollution caused by too much nitrogen and phosphorus. The main sources of nutrients are from agriculture and waste water. Our most recent water quality reports show that nutrient concentrations are too high in many of our waterbodies and that trends in some areas are going in the wrong direction. These levels of nutrients impact the ability of these waters to sustain healthy ecosystems and can cause nuisance algal blooms.

Nitrogen pollution is a particular problem in the south and south-east of the country and losses are closely correlated with the intensiveness of farming. Since 2013, nitrogen emissions have increased as both cattle numbers and fertiliser use have increased. Phosphorus concentrations are elevated in various parts of the country, particularly along the east coast and in parts of the south and are a particular problem in poorly draining soils. In addition, we have seen a dramatic reduction in the number of our most pristine rivers, which fell from over 500 sites in 1990 to only 20 sites by 2018.

Maintaining our waters in a healthy condition is critical if we are to maintain a vibrant and healthy society and an aquatic environment that supports a rich diversity of wildlife and habitats. The Water Framework Directive requires all waterbodies including our rivers, lakes, estuaries, coastal waters and groundwater, to achieve at least good ecological status by 2027.

It is essential that urgent action is taken through the implementation of the new River Basin Management Plan to drive and sustain improvements while preventing further deterioration.

## **Urban Waste Water Treatment Services - Environmental and Public Health**

The EPA's role in waste water regulation is to authorise and enforce discharges under the Waste Water Discharge Regulations (as amended). Irish Water, as the regulated entity for 509 treatment plants, is responsible for complying with authorisation conditions. In most cases, Local Authorities operate waste water treatment plants as part of a Service Level Agreement (SLA) for Irish Water. The EPA enforces these authorisations through an annual programme of inspections, monitoring and assessments.

The objective of waste water treatment is to collect the waste water generated within our communities, remove the polluting material, and then release the treated water safely back into the environment. However, waste water treatment at many areas is not as good as it needs to be due to a legacy of under-investment and continued delays in the provision of necessary infrastructure.

The EPA has identified the priority areas around the country where those improvements are most needed to:

- ensure Ireland complies with the Urban Waste Water Treatment Directive,
- eliminate discharges of raw sewage into our environment,
- protect inland and coastal waters at risk of pollution from urban waste water discharges
- address non complaint waste water collection systems and
- protect endangered freshwater pearl mussels.

Irish Water is making progress in resolving many environmental issues and the number of priority areas has reduced from 148 to 97 over the past four years. However, there is still a long way to go to bring all deficient waste water treatment systems up to the required standard. EPA is concerned that Irish Water still has no clear plan and time frame to improve treatment at 29 of the 42 priority areas identified as pressures on waters at risk of pollution.

The Urban Waste Water Treatment Directive sets basic standards for waste water treatment. In 2020 treatment at 12 large towns and cities failed to meet the standards down from 28 in 2017. These areas generate half of Ireland's waste water, with most of this produced in the

greater Dublin area served by the overloaded plant at Ringsend. A major upgrade of the Ringsend plant is ongoing and is due to be completed in 2025.

Thirty-Three towns and villages still release untreated sewage into the environment because they are not connected to treatment plants, though this is down from 50 in 2014. Construction work is either ongoing or due to start before the end of this year at 14 areas discharging raw sewage. However, Irish Water has repeatedly extended the dates to provide treatment for many of these areas. The EPA has highlighted the need for Irish Water to identify and remedy the underlying causes for the delays in providing treatment. The most recent delays mean that ten towns and villages are not scheduled to receive treatment until 2025 and a further two are likely to continue discharging untreated sewage until 2027.

While it is welcome to see improvements in waste water treatment and while EPA is cognoscente of the fact that it is not possible to fix all the issues in the short term, priority must be given to areas where improvements are most needed, and which will deliver the greatest benefits. In that context, Irish Water needs to resolve the environmental issues at each priority area without delay, to minimise the risks to human health and the environment.

### **Public Drinking Water Supply - Environmental and Public Health**

The EPA is the drinking water quality regulator, responsible for enforcing the Drinking Water Regulations. Irish water is responsible for providing public water services and for ensuring that drinking water quality meets the standard in the Regulations and that it is 'clean and wholesome' for consumption from approximately 800 water treatment plants in Ireland.

Currently, Local Authorities operate most public drinking water supplies under an SLA for Irish Water. The EPA enforces these regulations through an annual programme of audits, assessments and our Remedial Action List (RAL). This is a dynamic list of public water supplies that EPA has identified as priorities for remedial action and investment by Irish Water. The RAL (July 2021) contains 53 water supplies that are deemed to be 'at risk' by the Agency to deliver a safe and secure supply of drinking water serving approximately 433,000 consumers. This is down from almost one million consumers since last year as

improvement works at the Leixlip plant following the incidents in 2019 have allowed its removal from the RAL.

The EPA's 2019 Drinking Water Quality in Public Supplies Report set out a series of issues affecting the quality of the drinking water supplied by Irish Water that require action namely:

- ensuring adequate disinfection of treated water
- reducing the presence of trihalomethanes (THMs) in treated water
- replacing of Lead water mains and household pipes
- eradicating persistent pesticide failures above the limit set out in the drinking water regulations
- establishing Drinking Water Safety Plans for supplies

On the positive side, the EPA found that the overall quality of public drinking water remains high, with 99.9 per cent compliance with microbiological standards and 99.6 per cent compliance with chemical parameters in 2019. While this indicates that the majority of public water supplies are safe, further measures are necessary to improve the security of our supplies and avoid long term boil water notices into the future.

As of 11<sup>th</sup> October, there are 14 Boil Water Notices serving a population of 4,070 and 8 Water Restrictions Notices in place serving a population of 167. Eleven of the Boil Water Notices currently in place are long term notices i.e. in place for greater than 30 days. While inconvenient for the consumer, Boil Water Notices and Water Restriction Notices are necessary to protect public health until the issue with the drinking water supply has been resolved.

In highlighting these issues, the EPA has recommended that Irish Water take a strategic approach, through national programmes, to address these issues and prevent further drinking water quality failures. One example of this approach is the National Disinfection Programme which is of fundamental importance in identifying and addressing issues with disinfection in water supplies. It is very important that Irish Water continues to undertake

improvements to disinfection systems as the needs are identified across the country to ensure the quality of drinking water is safeguarded.

However, EPA is concerned to see that improvement works at many supplies are delayed. Irish Water needs to address the underlying causes for the delays in completing works for water supplies on the RAL and prioritise investment to ensure that public water supplies are safe and secure and that public health is protected.

### **Recent Incidents at Ballymore Eustace and Gorey Water Treatment Plants**

I understand that the Committee will be interested to receive an EPA perspective and update on the recent drinking water quality incidents at Ballymore Eustace and Gorey Water Treatment Plants.

#### **Ballymore Eustace**

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

At 11.30 am on Tuesday 1<sup>st</sup> September Irish Water informed the EPA of an alum dosing incident at the plant, which occurred on the 20<sup>th</sup> August, 12 days earlier, but had only come to Irish Water's attention the previous day.

The EPA, accompanied by representatives of the HSE, conducted an audit of the plant on the 9<sup>th</sup> September with the purpose of establishing the facts of the incident, the corrective actions taken following the incident and to verify the performance of Ballymore Eustace Water Treatment plant once corrective actions had been taken.

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

- the *Cryptosporidium* treatment barrier was compromised for up to 10 hours
- there was ineffective disinfection of water when turbidity rose significantly<sup>1</sup>

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<sup>1</sup> Above 1 NTU – nephelometric telemetry unit

- there was inadequate disinfection of water due to low chlorine levels in the final water for up to 6 hours
- there was a plug of inadequately treated water in the network for up to 4 days after the incident.

## **Gorey**

The Gorey Creagh water treatment plant serves 7241 consumers in Co. Wexford.

At 18:00 on Thursday 26<sup>th</sup> August, Irish Water informed the EPA of an incident where inadequately disinfected water went into supply from the Creagh Water Treatment plant over the period 19<sup>th</sup>-24<sup>th</sup> August, 7 days after the incident commenced.

The EPA undertook a virtual audit of the Creagh Water Treatment Plant on 7<sup>th</sup> September and on site audit on 16<sup>th</sup> September to establish the full facts of the incident, the corrective actions taken following the incident and to verify the performance of the Creagh Water Treatment plant once corrective actions had been taken.

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

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

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

## **Common audit findings at both Ballymore Eustace and Gorey**

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

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

The EPA has published its audit reports on its' website on 13<sup>th</sup> October and made a number of recommendations which Irish Water will need to address and respond to the Agency on. EPA inspectors will continue to engage with Irish Water to ensure those recommendations are fully addressed and implemented.

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

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

The EPA is meeting Irish Water on a weekly basis to assess progress on actioning the items outlined above.

As part of the EPA audit programme, independent audits are being completed at the larger plants focusing on incident management and critical alarm provisions.

### **The main issues highlighted by these incidents**

The EPA has described these incidents as an abject failure of managerial oversight, operational control and responsiveness by Irish Water and the Local Authorities in terms of their respective roles to deliver safe and secure drinking water.

While Irish Water has the primary responsibility for the safety of the water supply, the failure to report incidents between the Local Authorities and Irish Water prevented a timely risk assessment of the incidents and resulted in unacceptable delays in notifying the EPA and HSE.

These unacceptable delays in reporting and in particular the failure to consult with the HSE as to the risk to public health during the incidents, meant that there was no opportunity to issue a boil water notice to approximately 900,000 consumers of both supplies, which would have served to protect public health until issues at the plants were resolved satisfactorily.

Additional unreported incidents were uncovered by EPA inspectors during the auditing process which supports the EPA's view of incident management by Irish Water and Local Authority and their seriousness as a risk to public health. Unfortunately, these incidents are not isolated and have been evident in other audits conducted in other parts of the country.

It is clear to the EPA that the current arrangements for the delivery of safe drinking water in terms of managerial oversight, operational control and responsiveness are not working satisfactorily and are placing unacceptable risk on public health by failing to ensure safe and secure drinking water. While the EPA is aware of the ongoing work towards the transformation of Irish Water to a national water services utility by 2023, immediate significant improvement in the provision of water services by Irish Water and Local

Authorities operating under the current Service Level Agreement (SLA) is required to ensure the public are provided with safe and secure drinking water and that public health is protected.

*Closing remarks*

Chair, I would like to assure the Committee that the EPA will continue to monitor and report on water quality and to provide regulatory oversight of Irish Water, and work closely with the HSE and the Department of Housing, Planning and Local Government with the primary objective of ensuring the protection of human health and the environment.

Thank you for your attention.