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ON

AGRICULTURE, FOOD AND THE MARINE

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EPA Delegation

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Introduction

I would like to thank the Committee for inviting the Environmental Protection Agency (EPA) to discuss the Water Quality Monitoring Report on Nitrogen and Phosphorus Concentrations in Irish Waters 2022. I am joined by EPA senior management colleagues Mary Gurrie and Dr Jenny Deakin who deal with water quality monitoring and assessment in the EPA.

The EPA's purpose is to protect, improve and restore our environment through regulation, scientific knowledge and working with others. Specifically related to water quality, the EPA's responsibilities include:

- coordinating and implementing the national water quality monitoring programme.
- assessing the impact of human activities and pressures on water,
- providing advice and assisting in the establishment of environmental objectives, programmes of measures and river basin management plans,
- regulation of wastewater, industrial and waste activities, and
- oversight of local authority performance in terms of their statutory environmental functions

Water Quality in Ireland

Water quality in Ireland is not as good as it should be. The EPA's most recent assessments[1,2] show that just over half (54%) of surface waters - rivers, lakes and estuaries - are in a satisfactory condition which means that a large number are not in good ecological health. The picture for our estuaries is even more stark with only 36% in satisfactory ecological condition.

One of the most significant stressors on the ecological health of our waterways is high levels of nitrate and phosphorus. In terms of drinking water, high nitrogen levels, above the drinking water standard, can also pose a risk to human health.

[1] Water Quality in Ireland 2016-2021 (Monitoring & Assessment: Freshwater & Marine Publications | Environmental Protection Agency (epa.ie))

[2] Water Quality in 2022: An Indicators Report (Monitoring & Assessment: Freshwater & Marine Publications | Environmental Protection Agency (epa.ie))

Agricultural activity is one of the main sources of nutrient losses to water in Ireland and is a significant pressure on approximately 1,000 waterbodies. Impacts on water from agriculture are seen throughout the country and are associated with all types of agricultural activity.

High nitrate levels are a particular problem in the south and southeast of the country where they are associated with freely draining soils and more intensive agricultural activity.

As well as being too high, nitrogen levels in groundwaters, rivers and estuaries have increased over the last 10 years since their lowest point in 2012/2013. A short term peak arose in 2018 to 2019 as a result of the drought conditions in 2018 together with increased application of fertiliser that year. While still too high, nitrate levels have come down somewhat from that peak and there has been a slight increase again in 2022 when average nitrate concentrations in rivers and groundwaters were higher than in 2021.

Rivers with high phosphorus levels are associated with areas that have poorly draining soils where surface runoff carries it to the nearest watercourse following rain. Phosphorous concentrations are too high in many areas but have generally stabilised in recent years.

Nitrates Directive

The EPA has a number of reporting roles under the Nitrates Directive, and associated Regulations, including preparing a four yearly report and an annual report on water quality as part of Ireland's reporting obligation under the nitrates derogation.

In 2023, the EPA was required under the European Union (Good Agricultural Practices for the Protection of Waters) (Amendment) Regulations (SI 393 of 2022) to provide an additional assessment of water quality – known as the Interim Review. This assessment was based on specific criteria set by the Commission under a 2022 Commission Implementing Decision. The EPA submitted this assessment as an Annex to the Water Quality Monitoring Report on Nitrogen and Phosphorus Concentrations in Irish Waters 2022 to the Department of Agriculture, Food and the Marine (DAFM) in June and this in

turn was submitted by DAFM to the Commission. The report and supporting documentation is available on the EPA website and links are provided below.

Interim Review of Water Quality

The Interim Review was carried out using the criteria and monitoring network specified in the Commission Implementing Decision. The aim of the Commission's assessment is to identify where water quality is polluted, at risk of pollution, or showing stable or worsening trends, with respect to both nitrate conditions and eutrophication (referred to as trophic status). The EPA were required to assess changes in water quality between 2021 and 2022. Where waters meet the Commission's water quality criteria, the lands draining to those waters must be identified. These lands are shown in Map 1 on page 28 (the red map) of the Report.

Data

All the data underpinning the Water Quality Monitoring Report on Nitrogen and Phosphorus Concentrations in Irish Waters 2022 and the Interim Review comes from the EPA's national water quality monitoring programme. Nutrients are analysed using standard methods in the EPA's accredited laboratories. The biological elements (e.g. macrophytes, phytoplankton) are assessed using methods which have been intercalibrated and approved at European level. In terms of frequency, nutrients are monitored up to 12 times per year at each monitoring station. The biological elements are monitored at a minimum of once every three years in each waterbody. All EPA water monitoring data is publicly available on www.catchments.ie and on our data and mapping portal at https://gis.epa.ie/EPAMaps/Water.

Monitoring Network

The Commission Implementing Decision specifies that the data used for the assessment must be based on the Nitrates Directive monitoring network, which is the network used for reporting under the Nitrates Directive since 1991. The Nitrates Directive Monitoring Network is a subset of the EPA's full national water quality monitoring network which is used for all other EPA reports. This means that some areas with a high number of derogation farms, and which may need to reduce nitrogen losses to water, are not

included on the red map because they don't have a monitoring station in the Nitrates Directive monitoring network.

Trophic status

The red map also includes areas which do not have many derogation farms. This is because the Commission criteria include an assessment of eutrophication. In Ireland, both phosphorus and nitrogen play a role in determining eutrophication. Areas with excess nitrate and/or excess phosphorous levels leading to eutrophication are therefore included in the red map. This brings in waterbodies that are impacted by agricultural run-off from all farming types, not just derogation farms. While the Commission's measure to reduce the nitrogen loading is well suited to areas requiring reductions in nitrate leaching, on its own it is unlikely to address deteriorating water quality as a result of high phosphorous levels.

Targeting Agricultural Measures

To allow for targeting of measures, the EPA developed an additional map (Map 9, page 21) which provides a more refined insight into water quality in Ireland. In particular, it highlights where targeted measures to address nitrate, phosphorus and sediment losses are required as well as potential farm point source issues. This map is based on the full national monitoring network and includes the impact from all types of farming activity.

Summary

Clean water is essential for our health and wellbeing, our economy and for wildlife. Our water quality in Ireland is not as good as it should be, and we will not meet our water quality objectives until nutrient levels are reduced in those areas where they are too high. The agricultural sector has an essential role to play in improving water quality. Targeted and substantial measures are needed as a matter of urgency to reduce nutrient losses to water using the full suite of tools from advice and incentives to a strengthened inspection regime to drive compliance. We need to see a strengthened Nitrates Action Programme which will deliver the improvements required and which is fully implemented.

The EPA will continue to working constructively and collaboratively with relevant Government Departments and Agencies to provide the evidence base and to inform policy and action to improve water quality.

Appendix I

Water Quality Monitoring Report on Nitrogen and Phosphorous Concentrations in Irish Waters 2022

Supporting information for the interim water quality review 2022