
Early insights indicator report
**Nitrogen concentrations in
selected major rivers**
January - June 2025



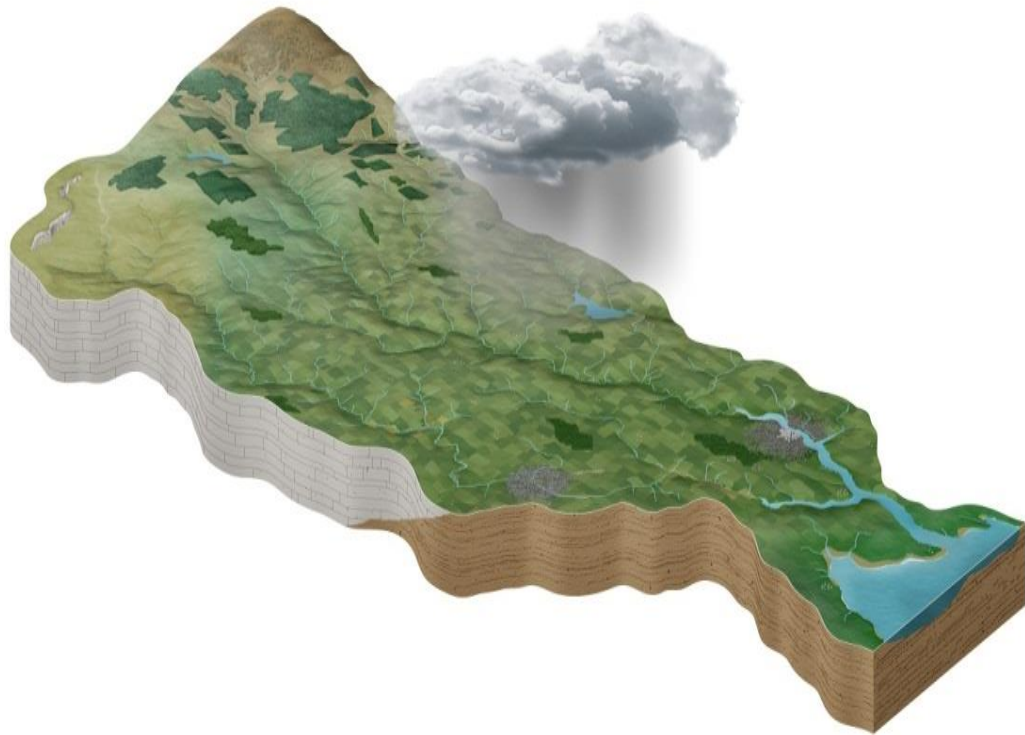
Published by the Environmental Protection Agency, Ireland

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January - June 2025



Water Quality Insights Report Bulletin
Vol 3

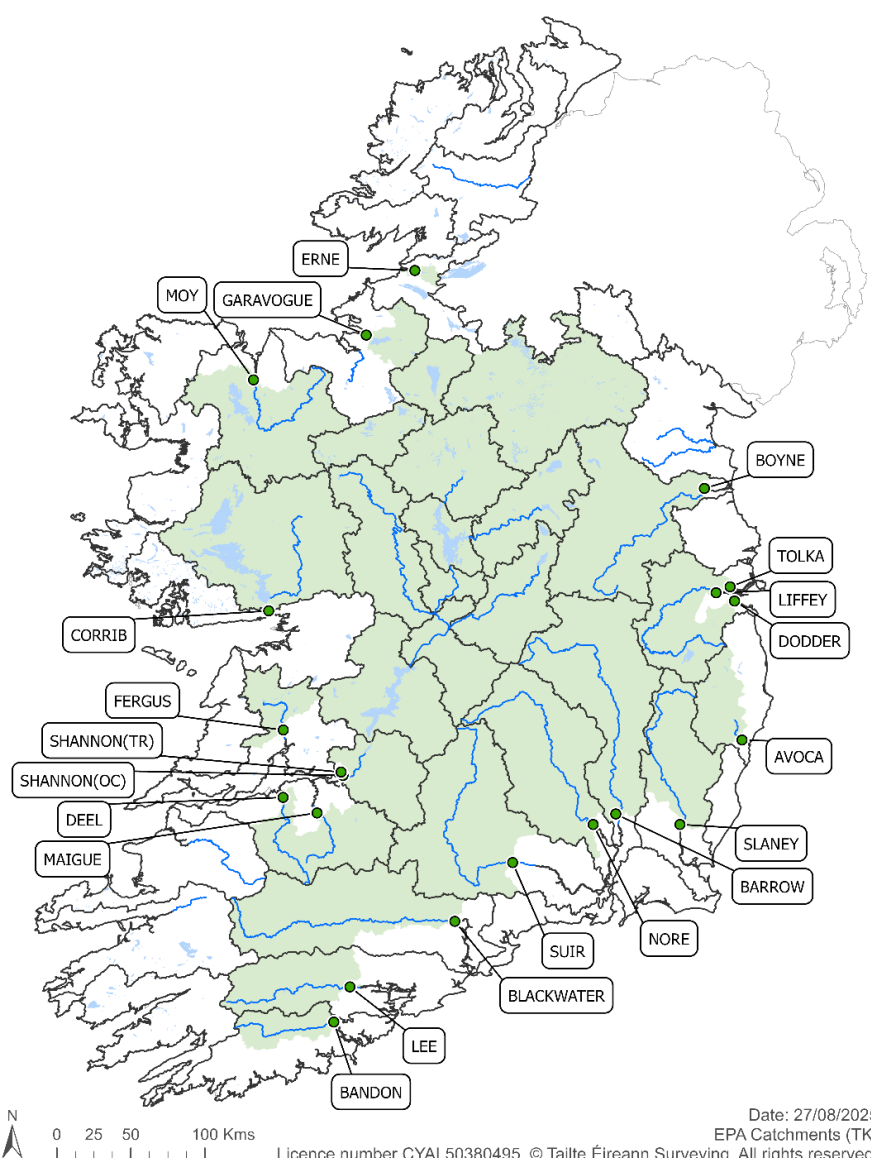
September 2025

Version no. 1.0

Early insights nitrogen concentration indicator

Overview

The early insights indicator reports were developed to provide an update on nitrogen concentrations in the major rivers of Ireland on a six-monthly basis. There have been two previous iterations, covering the periods January - June 2024¹ and January - December 2024². This update provides nitrogen concentration data from the first six-months of 2025 at 20 representative river monitoring stations, located at the most downstream available sites on the major rivers of Ireland. Previous early insight indicator reports have outlined the basis for the indicator and the monitoring points involved (including links to monitoring point data). A map of monitoring point locations and the catchments they represent is presented in Map 1.



Map 1: Location of the early insight's nitrogen indicator monitoring stations. Catchment areas associated with each monitoring point are shown in green.

¹ [January-June 2024: Early insights indicator report - Nitrogen concentrations in selected major rivers](#)

² [January-December 2024: Early insights indicator report - Nitrogen concentrations in selected major rivers](#)

Early insight nitrogen concentration data at representative sites

This report updates the nitrogen concentration profile to include data for January to June 2025 inclusive. The data used to compile this update can be found on the EPA website at <https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/early-insights-indicator-report-nitrogen-concentrations-in-selected-major-rivers-january-june-2025.php>.

Comparisons are made with the same six-month period in previous years for context. In previous reports^{1,2}, it was shown that average nitrogen concentrations at the representative sites during the first six-months of the calendar year were a reasonable, albeit conservative predictor of the overall 12-month annual average.

Figure 1 shows the average nitrogen concentrations for the period January to June for each year between 2016 and 2025, at the 20 representative sites. The data indicate that nitrogen concentrations have increased by 16% in the first half of 2025, relative to the corresponding six-month period in 2024. Year on year, nitrogen concentrations fluctuate due to source loading, agricultural land management and weather patterns. The EPA is investigating the drivers that have caused these changes over time.

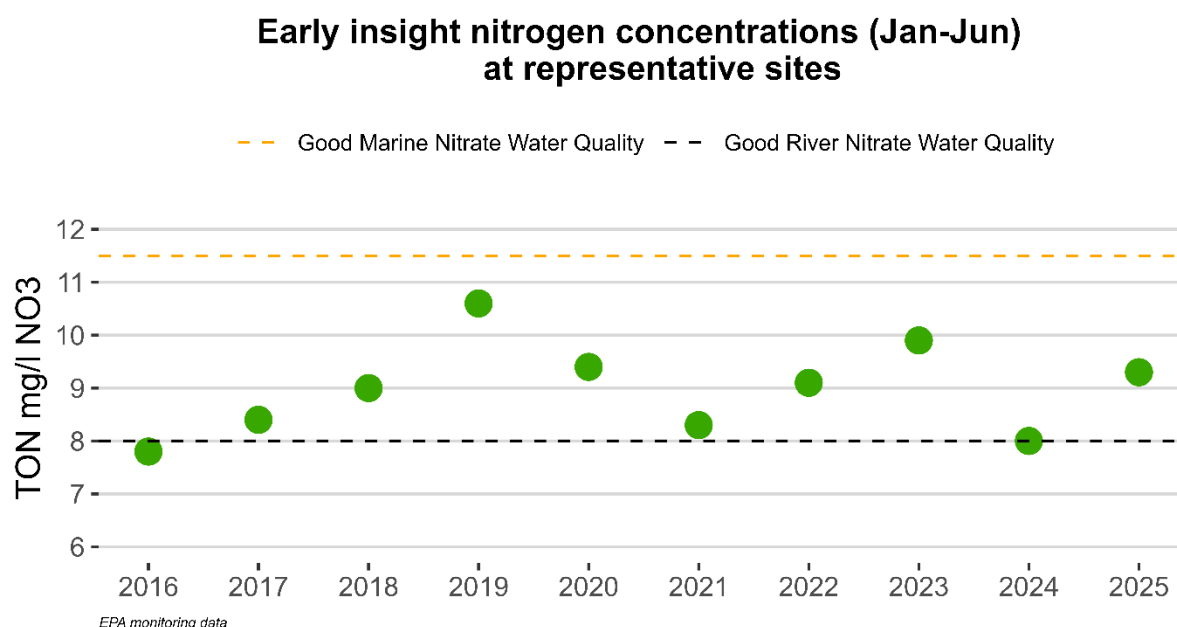


Figure 1: Early insight average nitrogen concentrations for the January - June period of each year from 2016 to 2025 at 20 representative sites located around the country. Concentrations are presented as total oxidised nitrogen (TON), which includes both nitrate and nitrite. The proportion of nitrite in TON is extremely low. The estuarine standard of 11.5 mg/l NO₃ (2.6 mg/l as N), and the guideline value to support healthy river systems of 8 mg/l as NO₃ (1.8 mg/l as N) are included.

Early insights nitrogen concentrations in catchments requiring nitrogen load reductions

This early insights update shows the most up to date available information and represents a six-month snapshot in time. Separate to the early insights series, the EPA reports on catchments requiring nitrogen load reductions to meet water quality objectives. These reports use three years of nitrogen concentration data at representative sites, the most recent of which covered the period 2022 to 2024³. This early insights update, covering the first six months of 2025, is new data and has not been described in previous EPA assessments or publications.

To show the geographical spread of the early insights data, nitrogen levels inside versus outside catchments which require³ or have previously required⁴ nitrogen load reductions are shown (Figure 2, Map 2). A marked difference in average concentration is shown between catchments primarily located in the east, south and southeast versus catchments in the west and northwest, reflecting differences in farm practices, soil types and climate conditions. In both groups of catchments, nitrogen concentrations have increased in the first half of 2025, relative to the corresponding period in 2024.

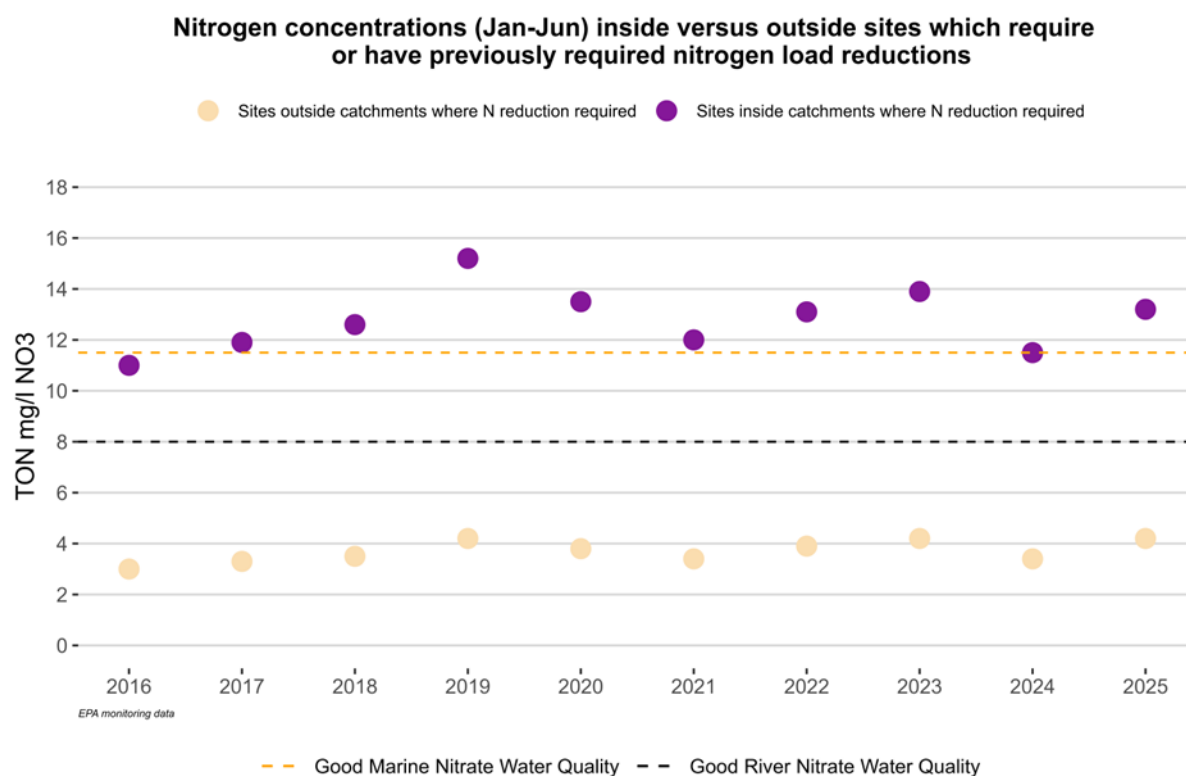
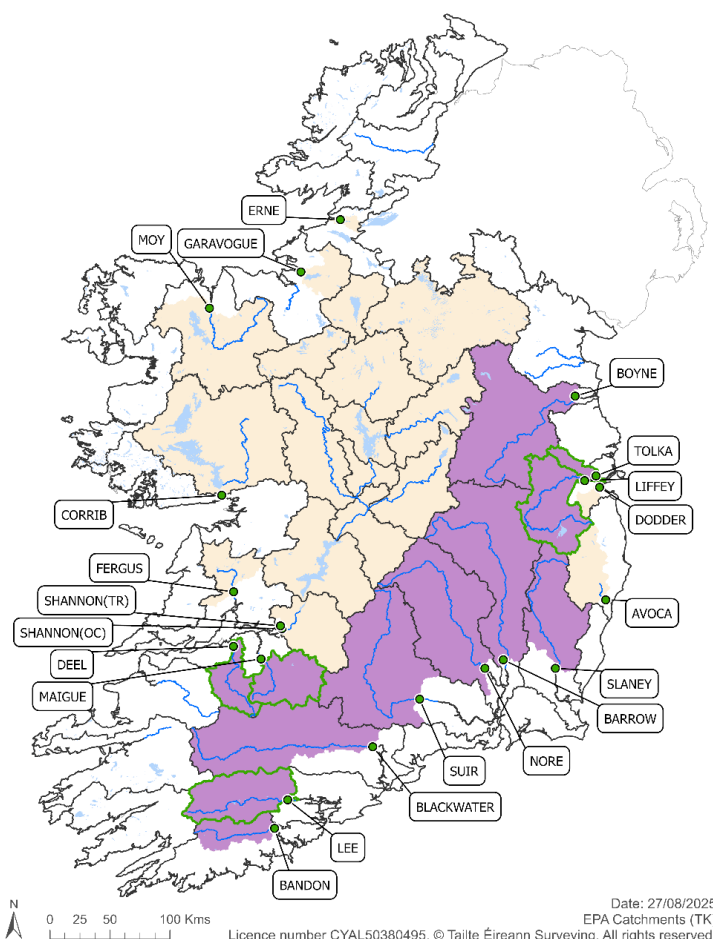


Figure 2: Early insight average nitrogen concentrations for the January - June period of each year from 2016 to 2025 at 20 representative sites located around the country, categorised by catchment type. The estuarine standard of 11.5 mg/l NO₃ (2.6 mg/l as N), and the guideline value to support healthy river systems of 8 mg/l as NO₃ (1.8 mg/l as N) are included.

³ [Evidence-based targeting of agricultural measures to reduce nitrogen in catchments to achieve water quality objectives | Environmental Protection Agency](#)

⁴ [Assessment of the catchments that need reductions in nitrogen concentrations to achieve water quality objectives | Environmental Protection Agency](#)



Map 2: Location of the early insight's nitrogen indicator monitoring stations and their associated catchment areas. Catchments previously identified as requiring nitrogen load reductions are shown in purple⁴. Catchments which met their catchment nitrogen targets in 2024 have a green outline³.

Further information

The EPA undertakes a full assessment of the overall quality and ecological status of Ireland's waters every three years. The latest full assessment was published in October 2022 on the EPA website⁵. The next full assessment for the period 2019 - 2024 will be published in Q4 2025. The EPA also publishes water indicator data for over 1000 monitoring points from the national water monitoring network, on an annual basis. The latest report on nitrogen and phosphorus concentrations in Irish waters 2024 was published in July 2025⁶.

In August 2025, the EPA published evidence to further support the targeting of agricultural measures to protect and improve water quality³. This report included an update to the Farm and Landscape measures for Agriculture (FLAG) map - previously called the Targeting Agricultural Measures map. The FLAG map highlights where the highest risk areas are, and the types of local actions that are needed to maintain or improve water quality. A link to the FLAG map is provided here <https://gis.epa.ie/EPAMaps/agriculture>.

⁵ <https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/water-quality-in-ireland-2016--2021-.php>

⁶ <https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/water-quality-monitoring-report-on-nitrogen-and-phosphorus-concentrations-in-irish-waters-2024.php>

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