



National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Impact of derogation from the Nitrates Directive on water quality: comparison of five European countries

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LUWQ2025 | 3rd June 2025

Derogation

- > Why?
- > How?
- > Impact on water quality

COUNCIL DIRECTIVE

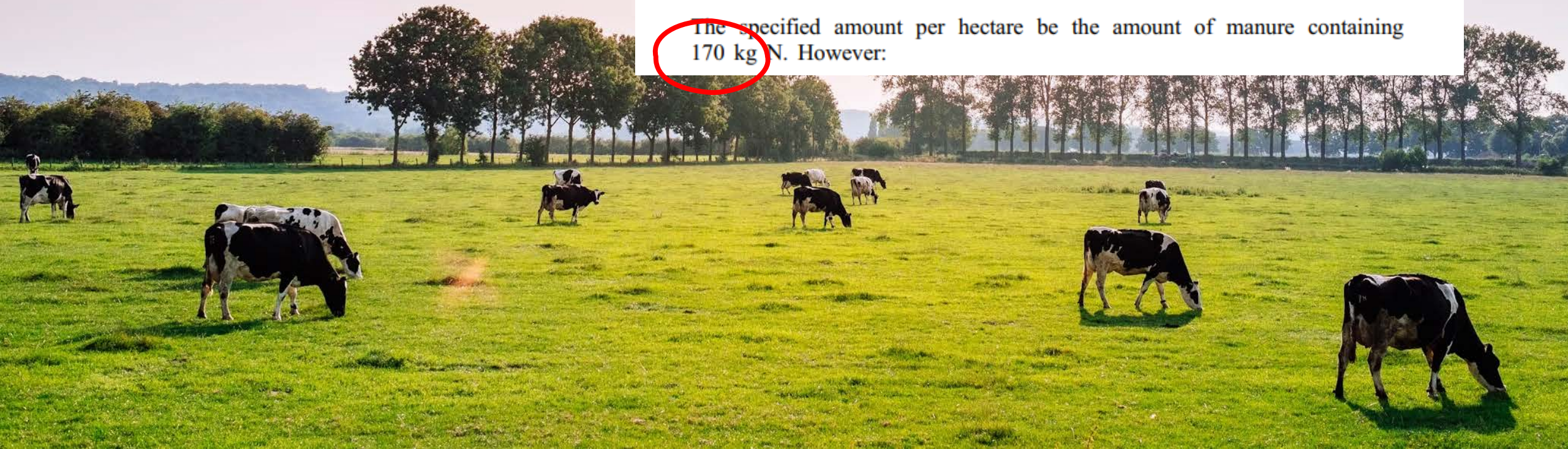
of 12 December 1991

concerning the protection of waters against pollution caused by nitrates from agricultural sources

(91/676/EEC)

2. These measures will ensure that, for each farm or livestock unit, the amount of livestock manure applied to the land each year, including by the animals themselves, shall not exceed a specified amount per hectare.

The specified amount per hectare be the amount of manure containing 170 kg N. However:

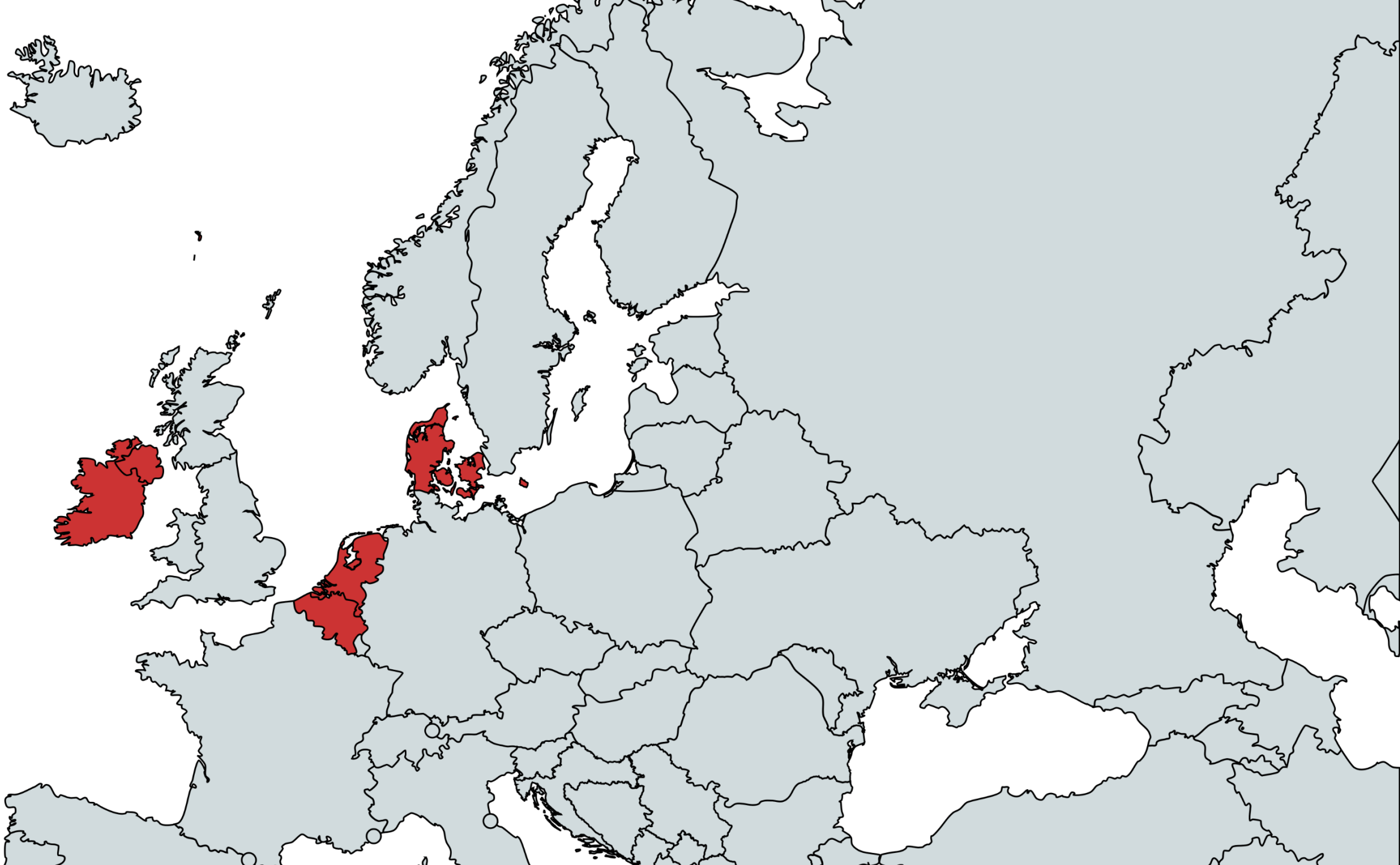




What is derogation?

- › Exemption to the rule
 - Long growing seasons
 - Crops with high nitrogen uptake
 - High net precipitation
 - High denitrification capacity









Derogation rationale

1. High density of livestock farming
2. Scientific justification
3. Environmental monitoring



Specifics of derogation

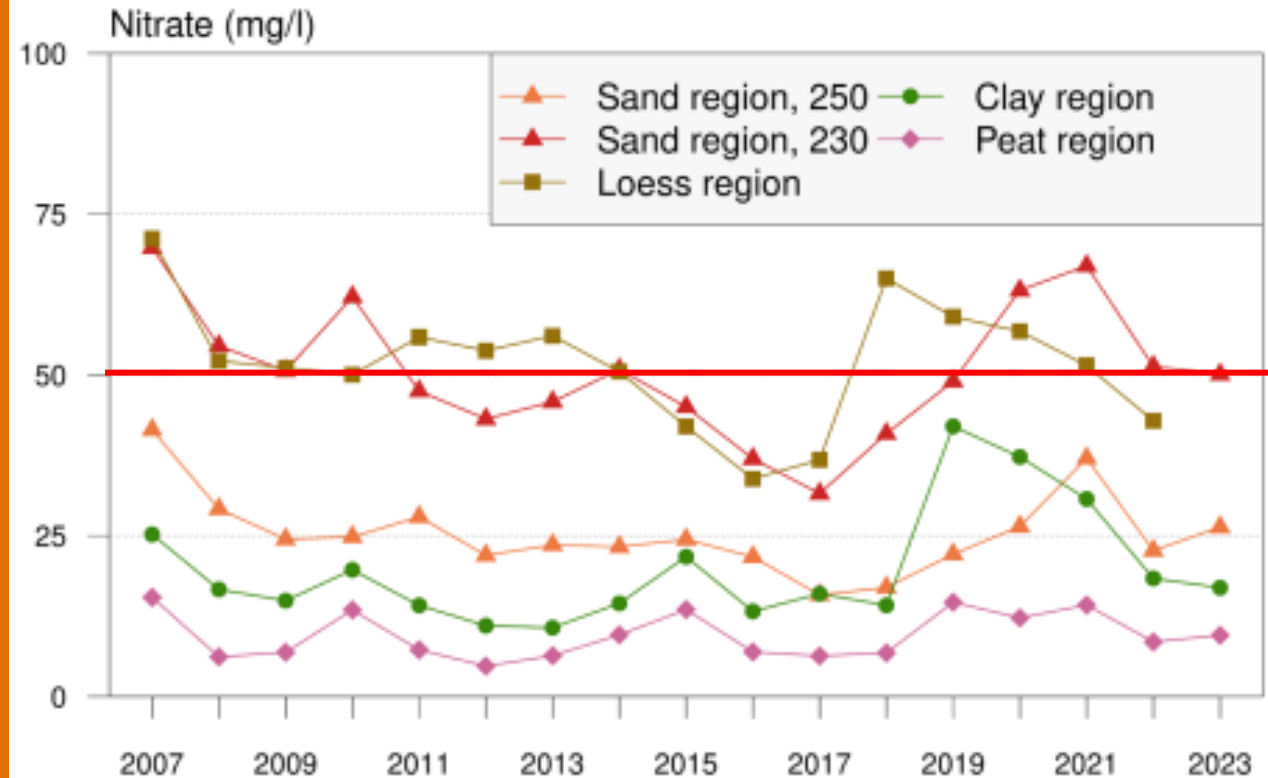
Country	Period	Level of derogation (manure N in kg ha ⁻¹)	Application (% of agricultural area)	Derogation monitoring network
Netherlands	2005-2025	250	31%	Yes
Denmark	2005-2024	230	6.7%	
Ireland	2006-2025	250	9.6%	
Flanders	2008-2022	250	13%	Yes
Northern Ireland	2007-2025	250	4%	



Netherlands

- › 300 derogation farms monitored
- › Results:
 - Derogation has had no negative effects on water quality since 2006
 - Nitrate levels have stabilized or declined until 2017
 - During dry years, the nitrate standard of 50 mg/l is often exceeded in the Loess and Sand region
 - Nevertheless, 58 % of freshwaters were eutrophic and 10 % could become eutrophic

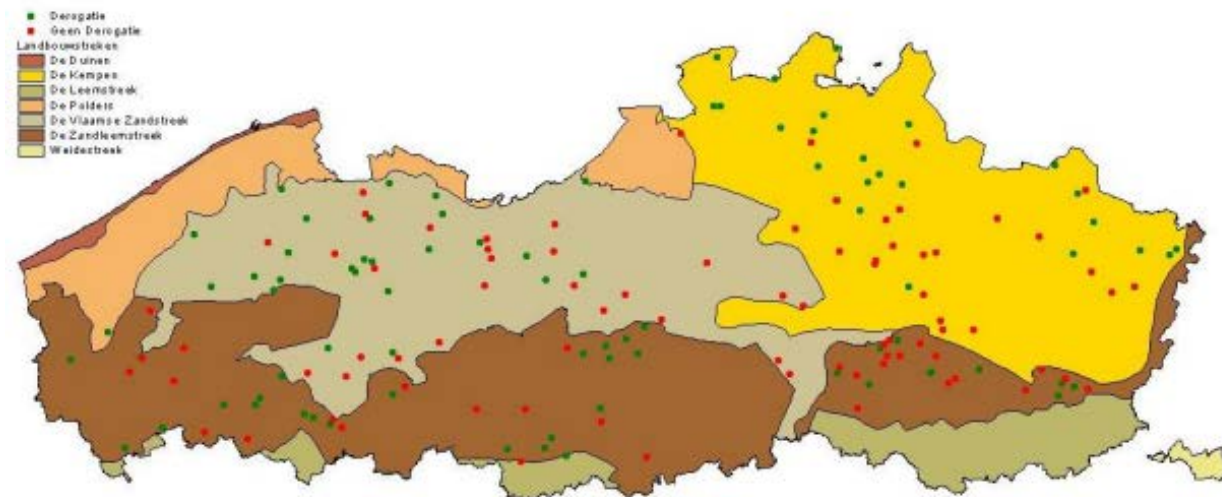
Derogation network - Groundwater





Flanders

- › 160 farms monitored, split between derogation and control
 - No difference between derogation and non-derogation farms
- › For all agricultural catchments insufficient improvement for surface waters





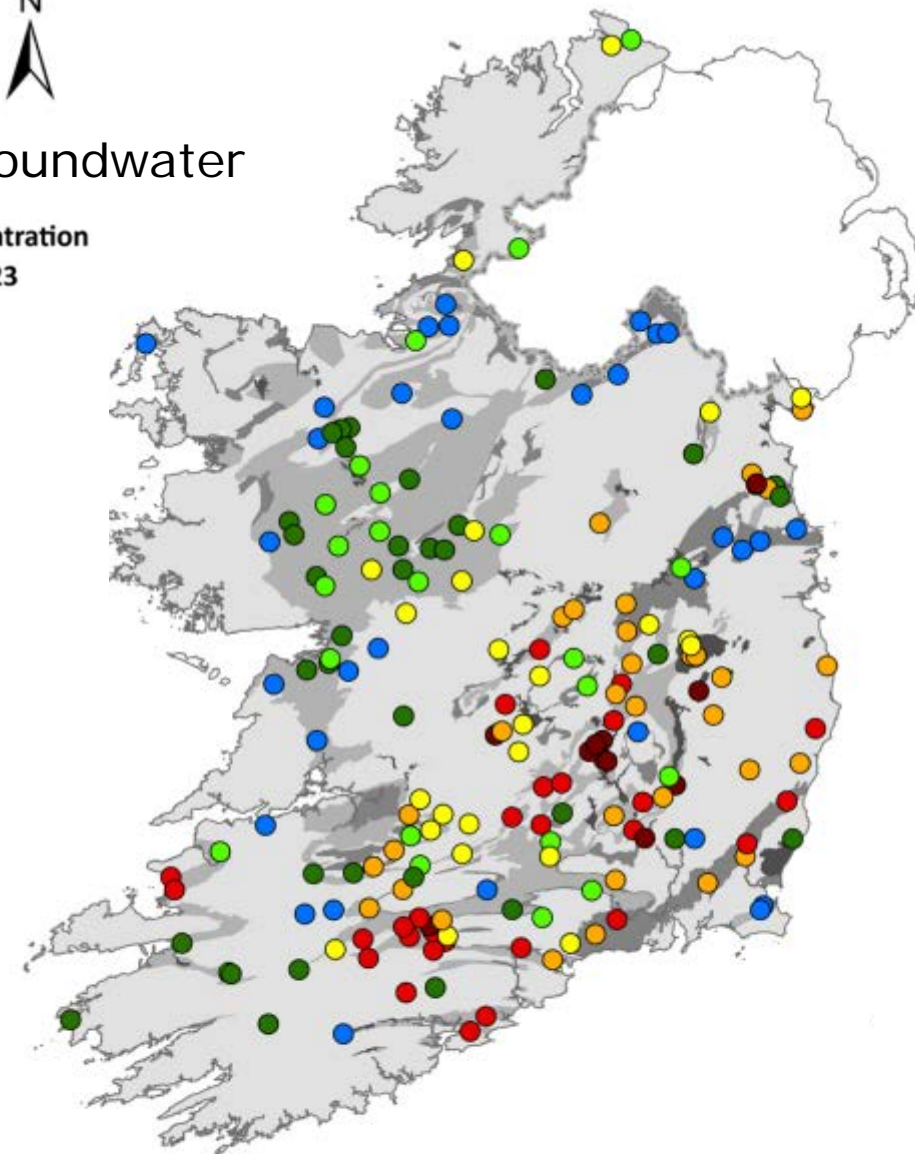
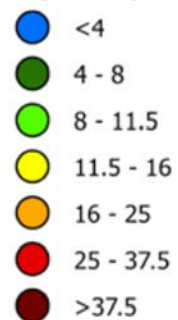
Ireland

- › Monitoring by the EPA
- › Focus on high-risk areas and livestock-dense regions
- › Some areas now limited to 220 kg N/ha/year



Groundwater

Mean Nitrate Concentration
(as mg/l NO₃) for 2023



Aquifer Type



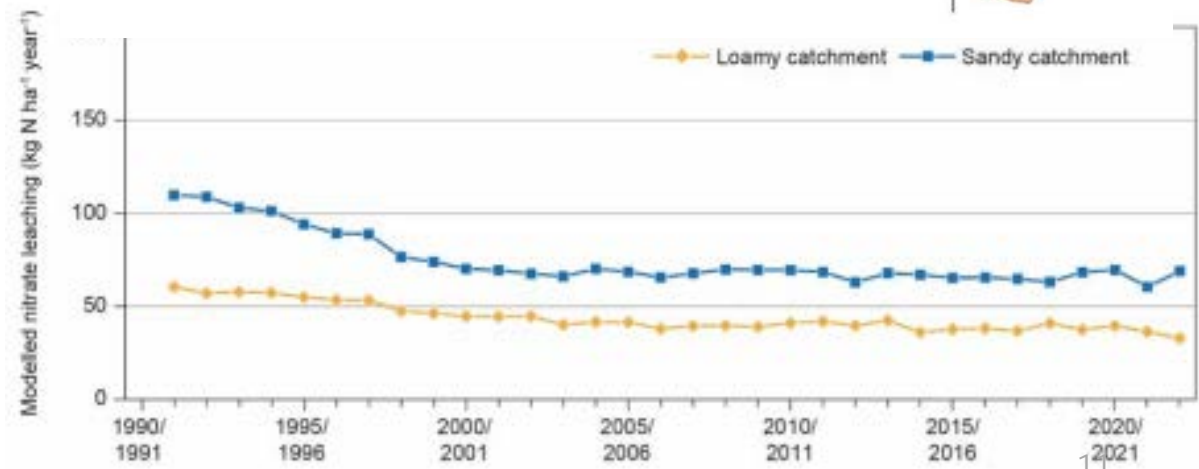
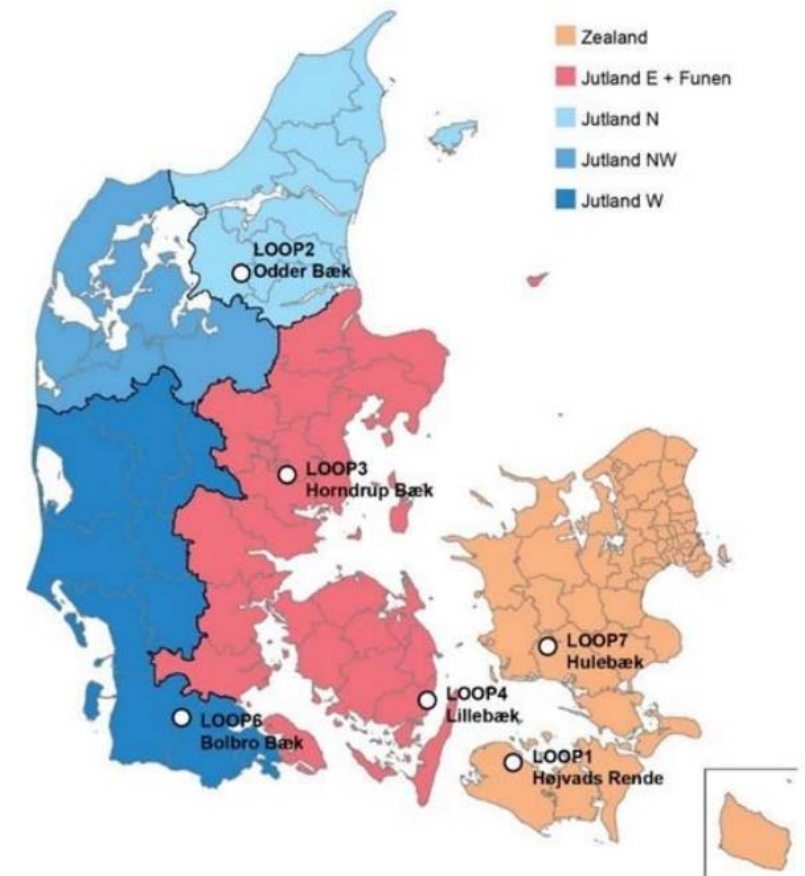
EPA, 2024

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Denmark

- › LOOP: national catchment monitoring system
- › Nutrient Trends: nitrate concentrations in groundwater remain a concern, especially in areas with sandy soils and shallow water tables.
- › Overall, limited improvement in national water quality



Rolighed, 2024



Northern Ireland

- › Monitoring by DAERA
- › Results:
 - › Nitrate concentrations remain relatively low
 - › Persistent nitrate exceedances in some catchments
 - › Increase in nitrate concentration in surface waters



Conclusions & Outlook

- › Nitrates Directive: 20+ years, ongoing compliance challenges
- › Derogation: Flexible tool for higher manure application
- › Monitoring: Nutrient levels on derogation farms mirror national trends
- › European Commission is increasingly emphasizing the importance of meeting the environmental quality standards.