



Water quality in Ireland

Status, trends, pressures & policies

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Water quality

Water is a vital natural resource

- Supports multiple ecosystem services



Conservation policy

- Water Framework Directive
- ≥ “Good Ecological Status” by 2027
 - Biology
 - Physio-chemistry
 - Hydro-morphology



N
Nitrogen

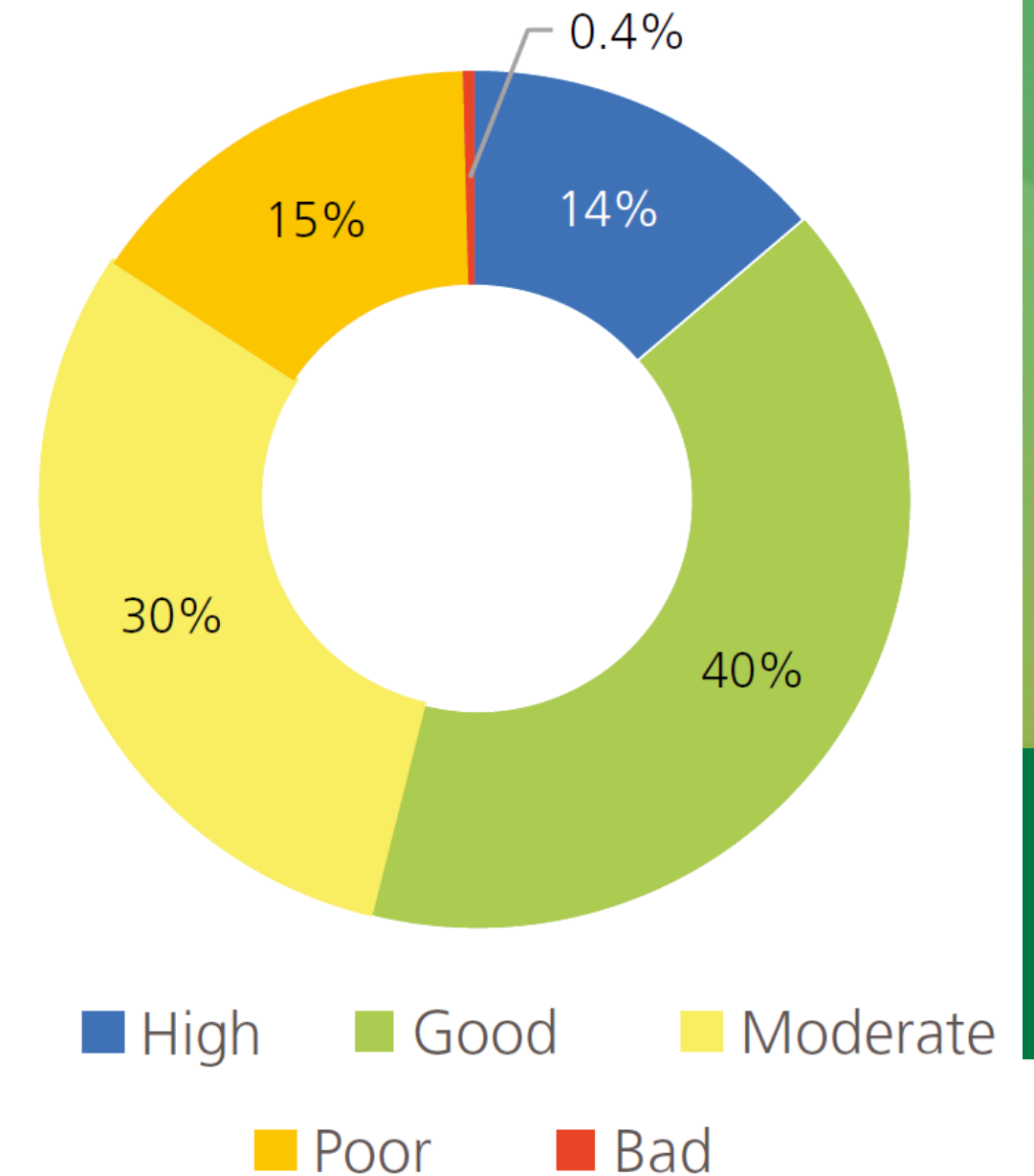
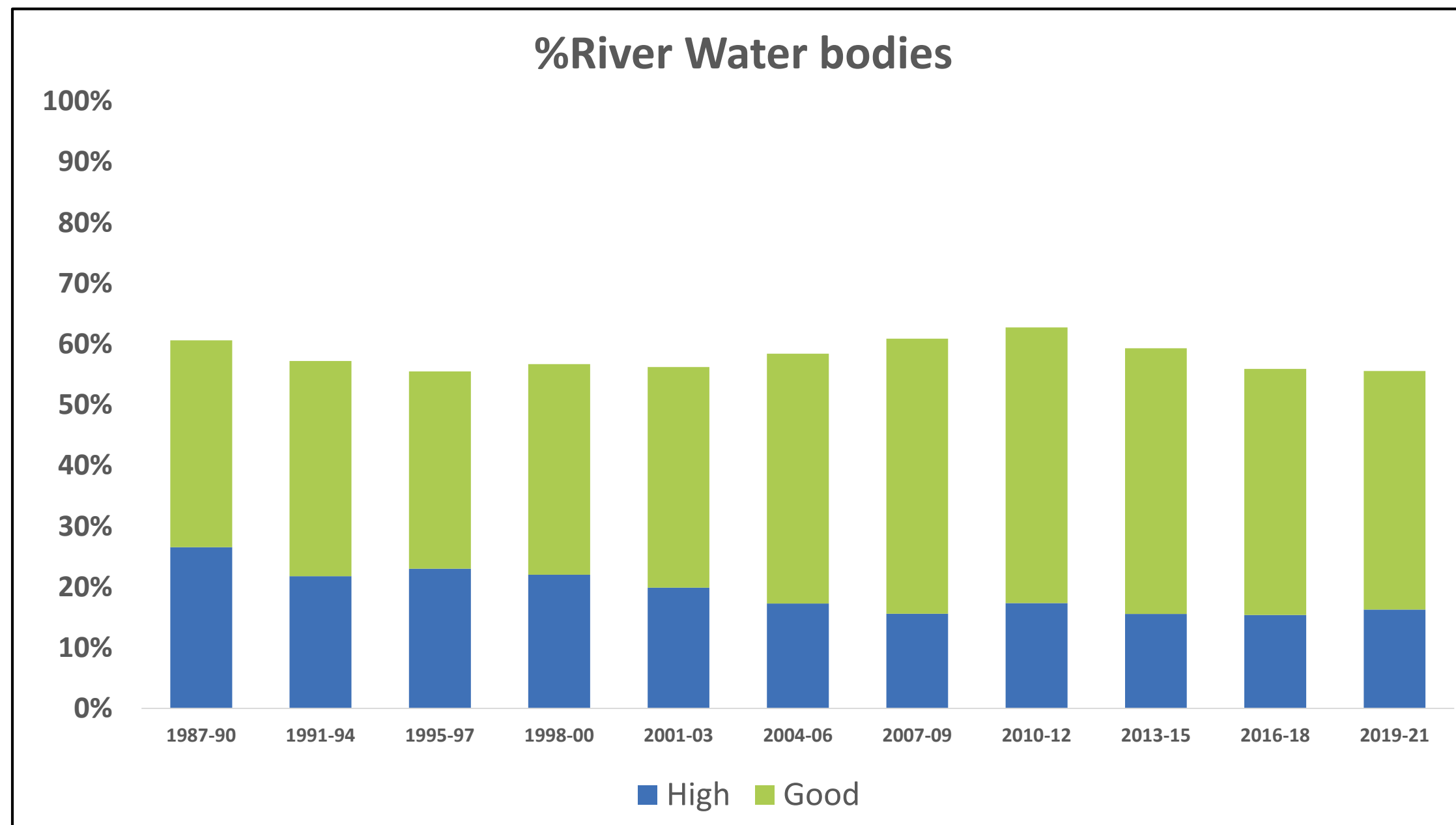
P
Phosphorus



Water quality - Status

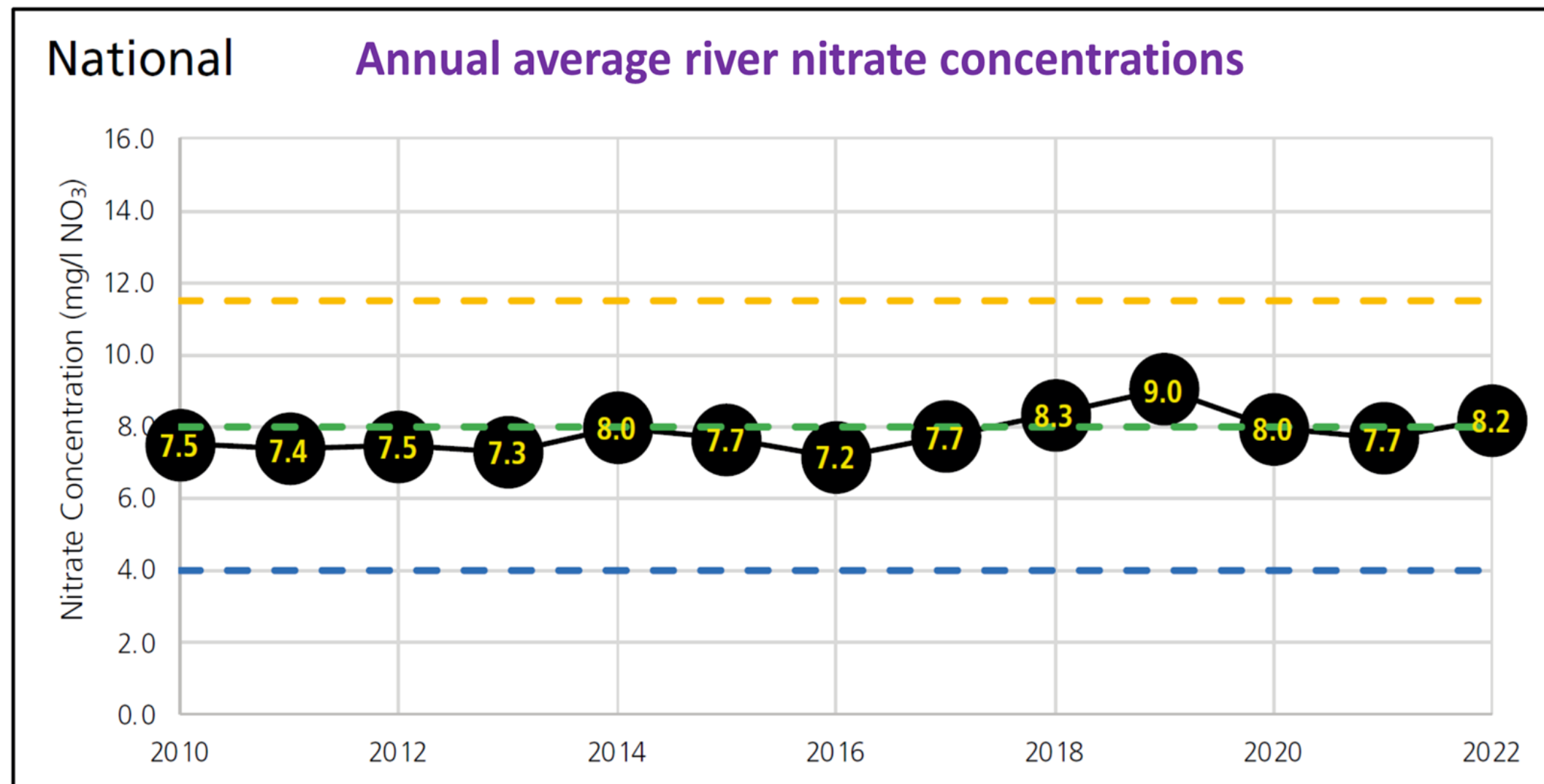
≥ Good Ecological Status ≈ 54%

Ireland is 7th (out of 28 EU countries) in achieving good ecological status

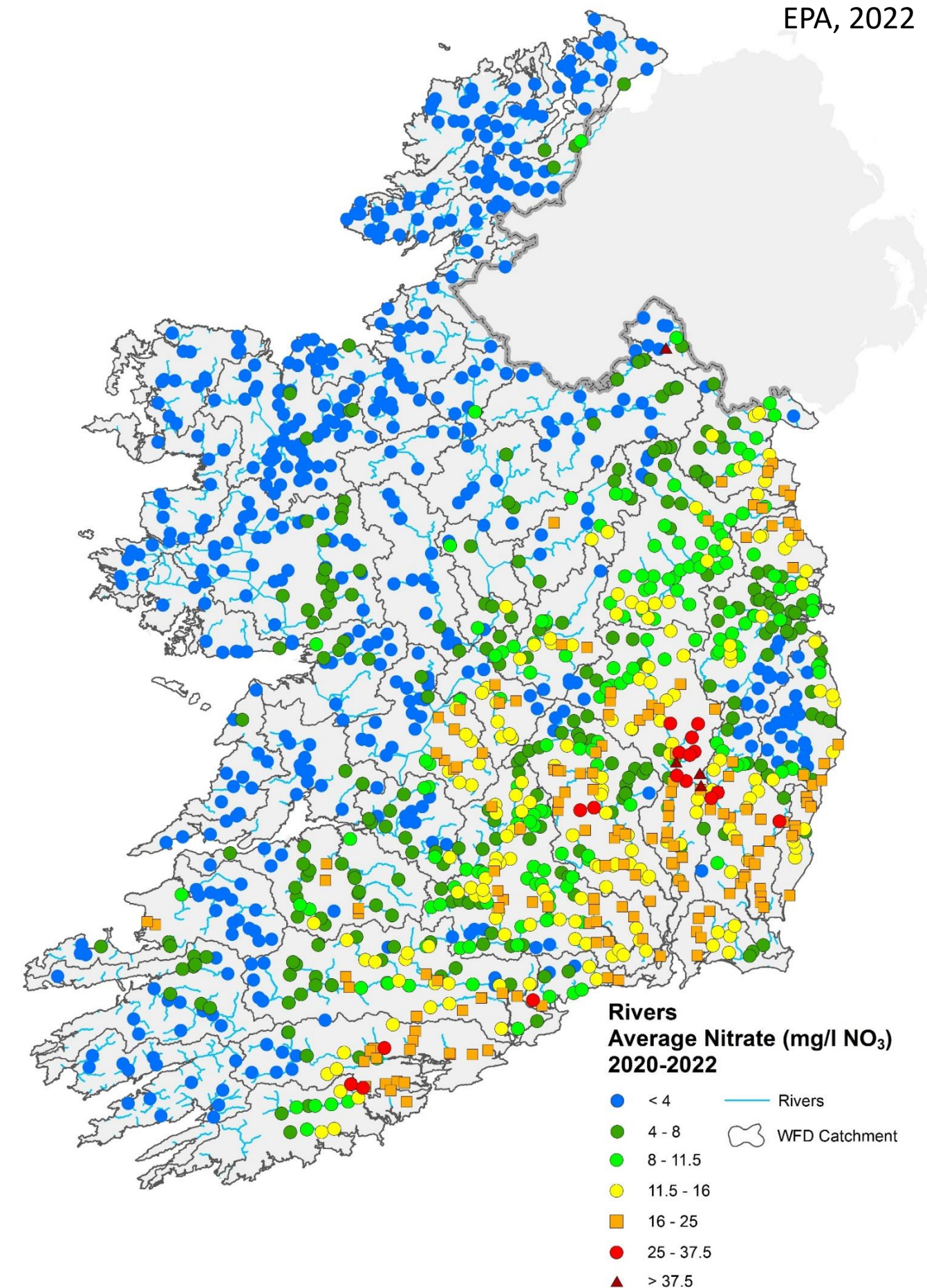


Water quality - Nitrogen

- ◈ $< 8.0\text{mg/l NO}_3 \approx 58\%$ (of rivers)
- ◈ Ireland lies 20th (out of 29 EU countries) favourable NO_3 concentrations

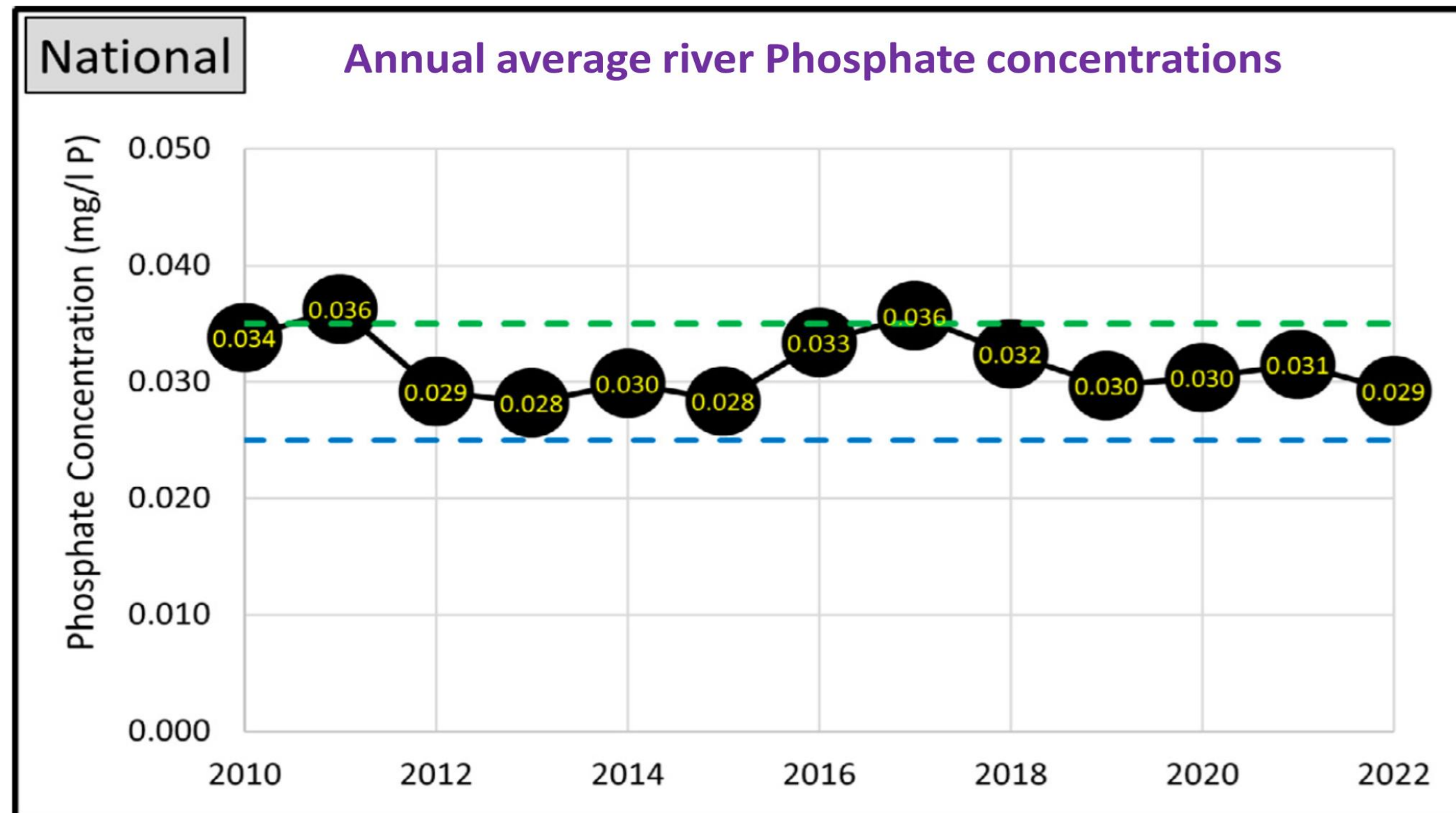


EPA, 2023

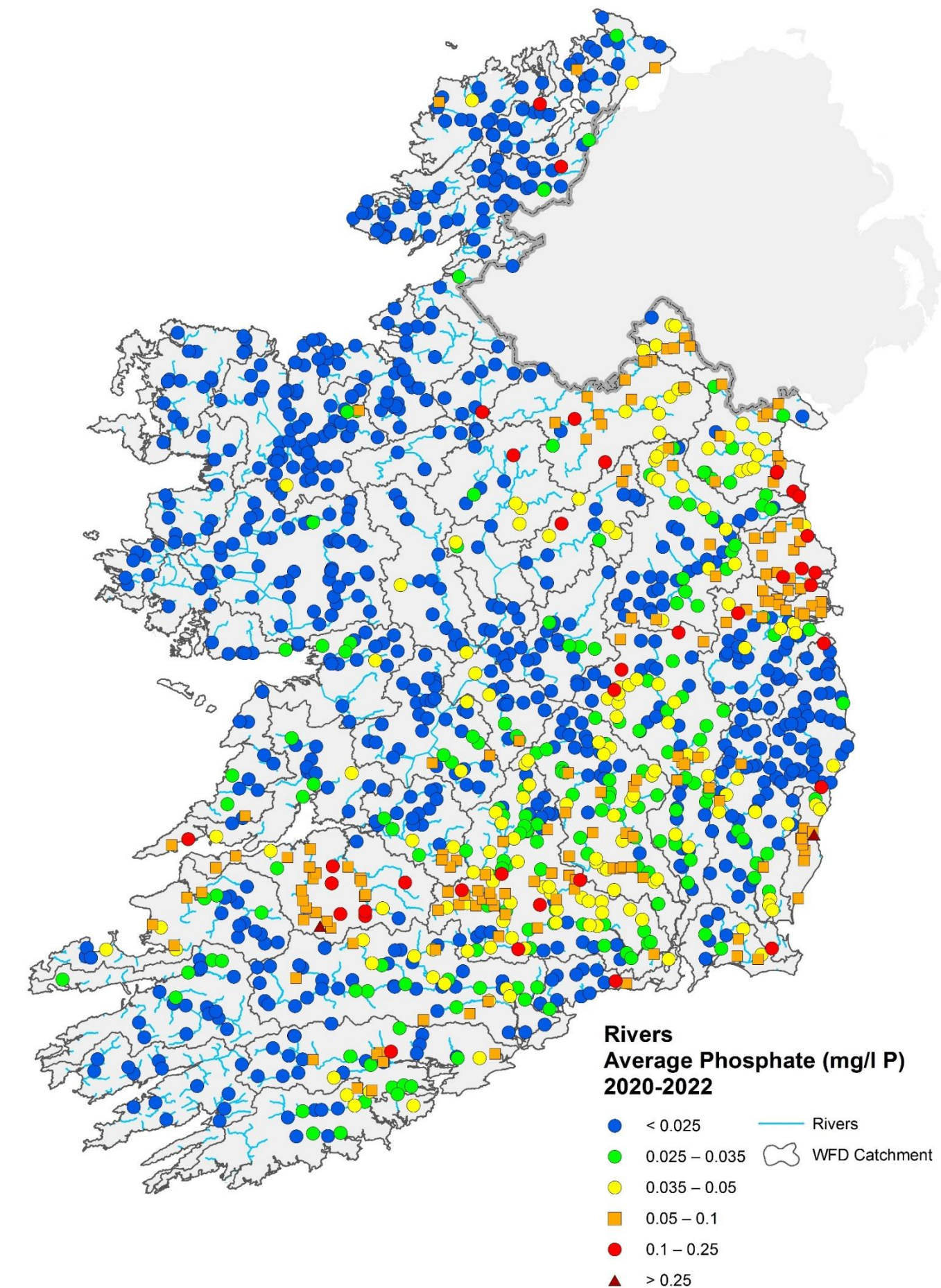


Water quality - Phosphorus

- ◆ $< 0.035\text{mg/l P} \approx 73\%$ (of rivers)
- ◆ Ireland lies 6th (out of 29 EU countries) favourable P status

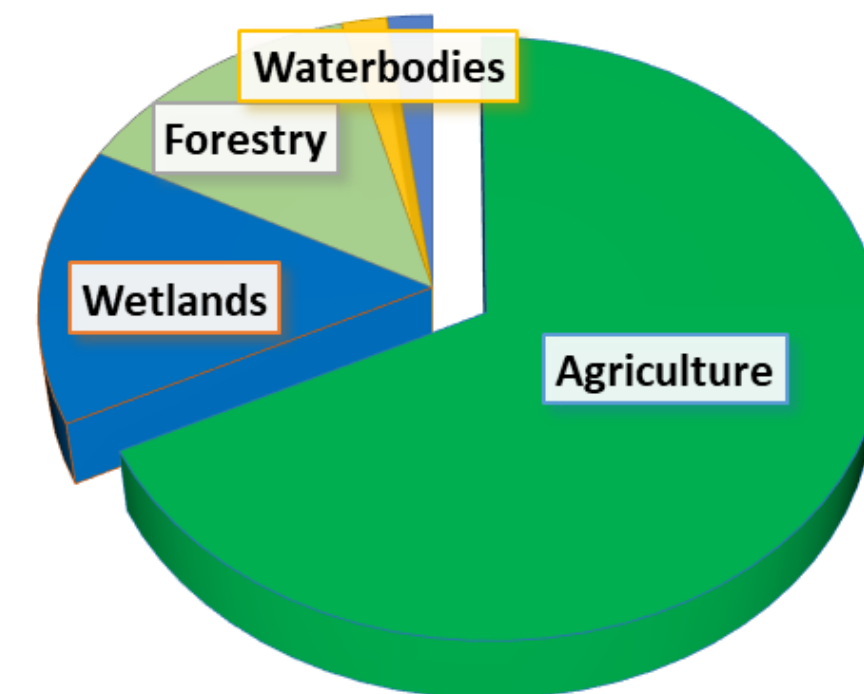
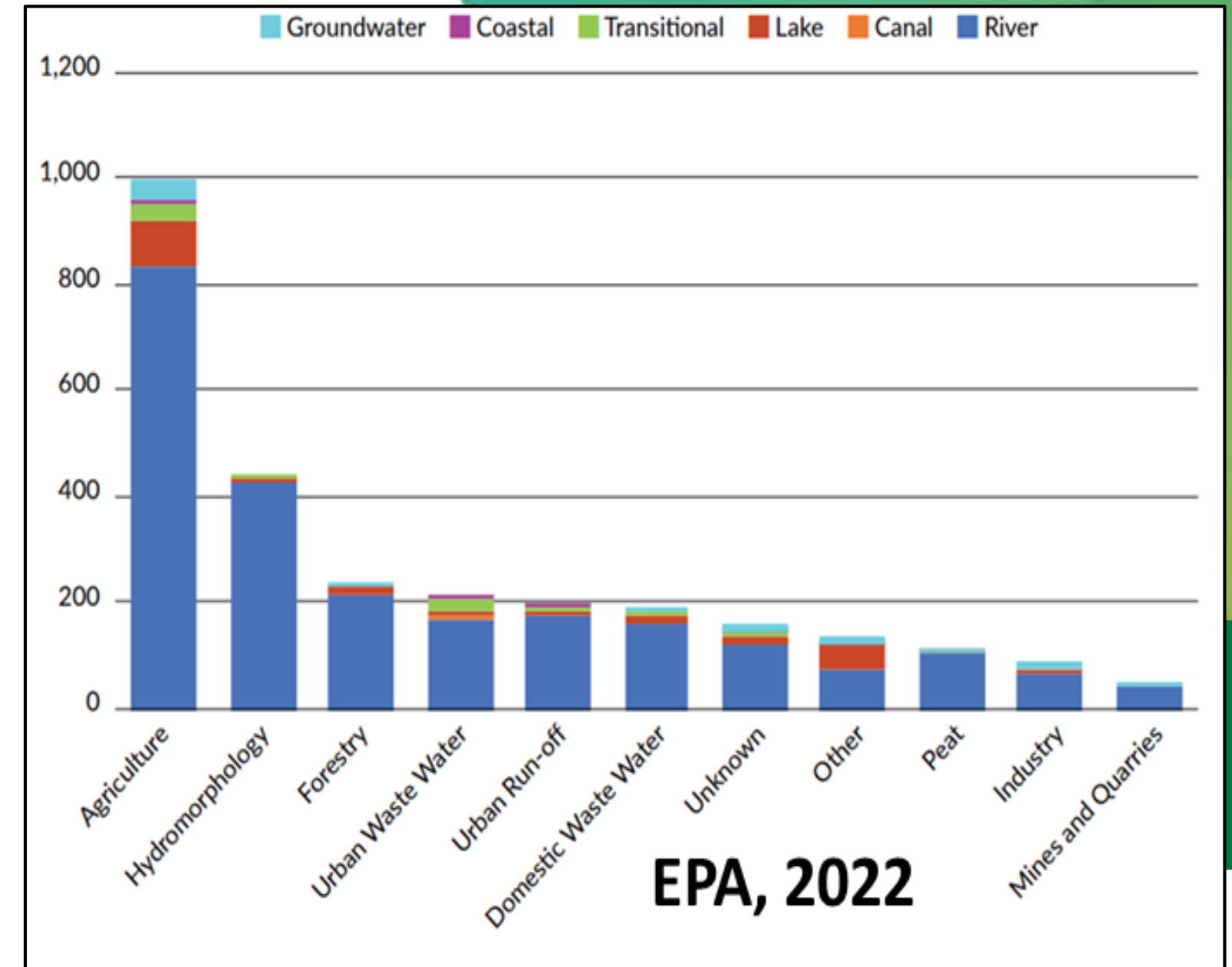
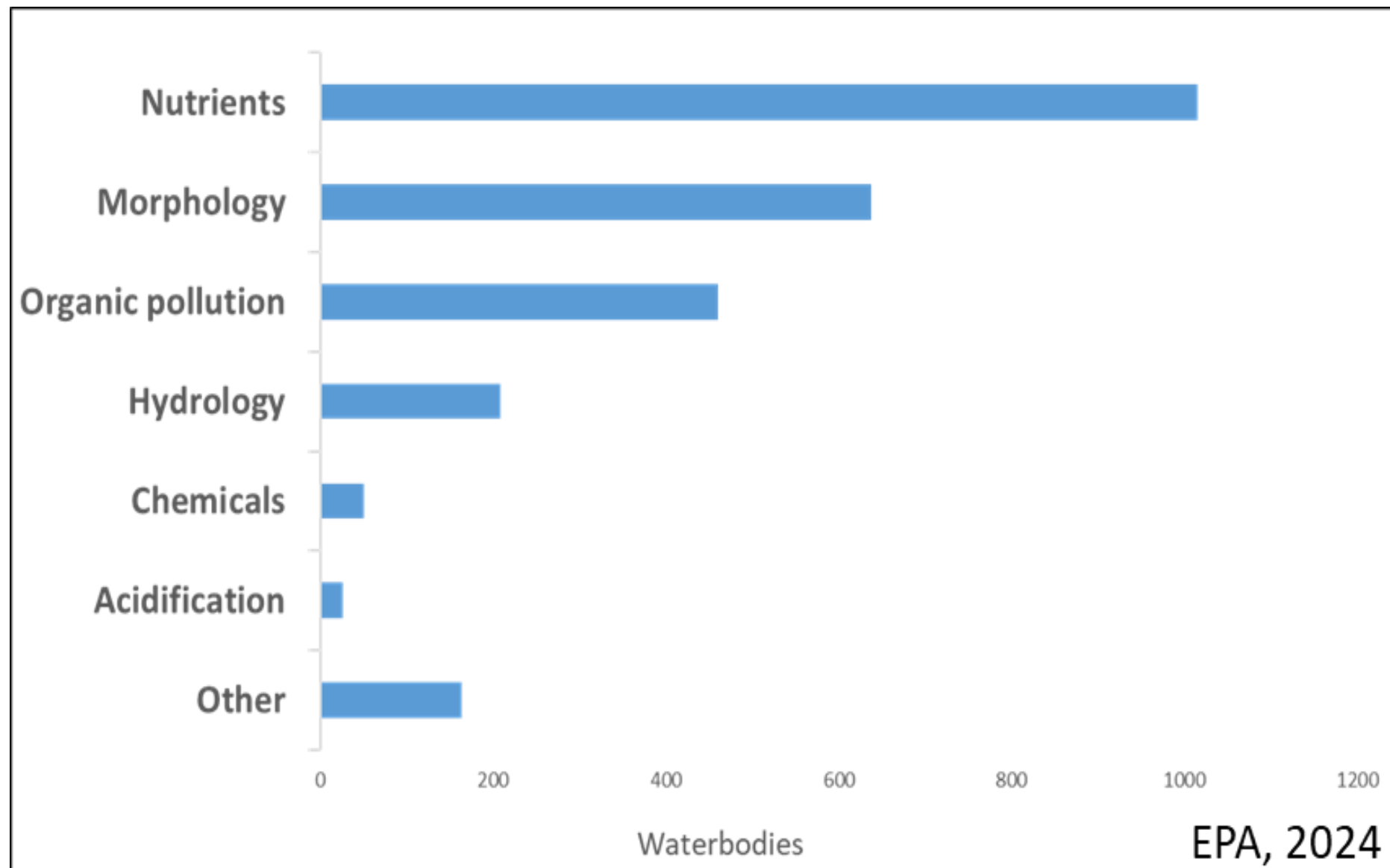


EPA, 2023



Water quality - Pressures

- Multiple Pressures
- Agriculture - most significant pressure
- Agriculture – largest land area



Water quality – Pressures - 2

- ◆ Nutrients – Fertilisers, animal waste
- ◆ Sediment – Cattle access points, tracks
- ◆ Morphology – Drainage systems



Water quality - Policies

Water policies

- WFD, Nitrates Directive

Agricultural policies

- Common Agricultural Programme

Wider environmental policies

- Soil, Biodiversity, Climate

Complex policy environment

How can we achieve water quality objectives?



Water quality - Science

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Agricultural Catchments Programme

Sources of nutrients and sediment

Pathways

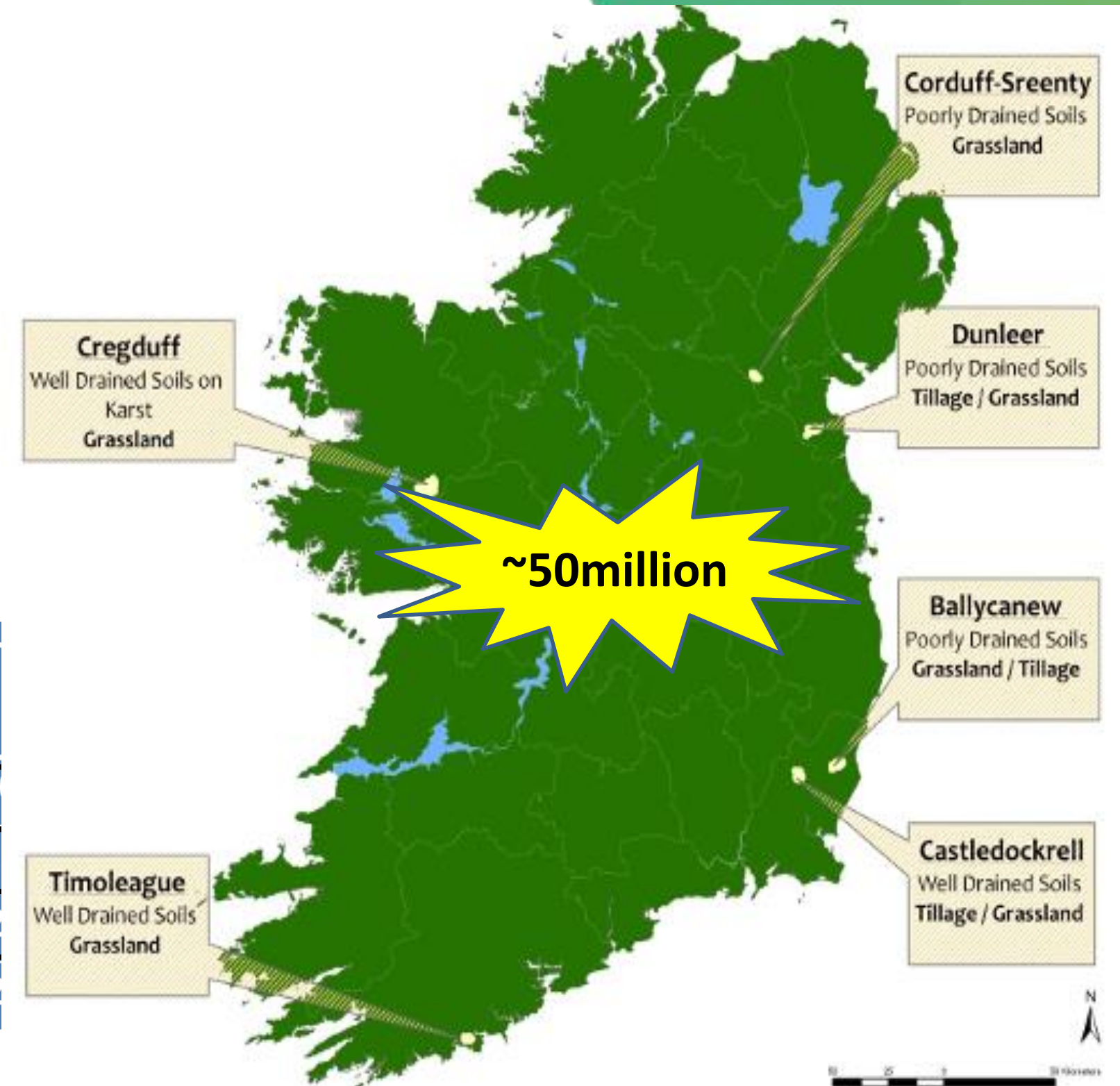
Drivers

Environmental

Anthropogenic

Climatic

	Catchment (Year)
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Water quality - Mitigation

Reduce the source

- Nutrient Management Plans
- Application of nutrients

Break the pathway

- Farm roads
- Riparian buffers
- Landscape features

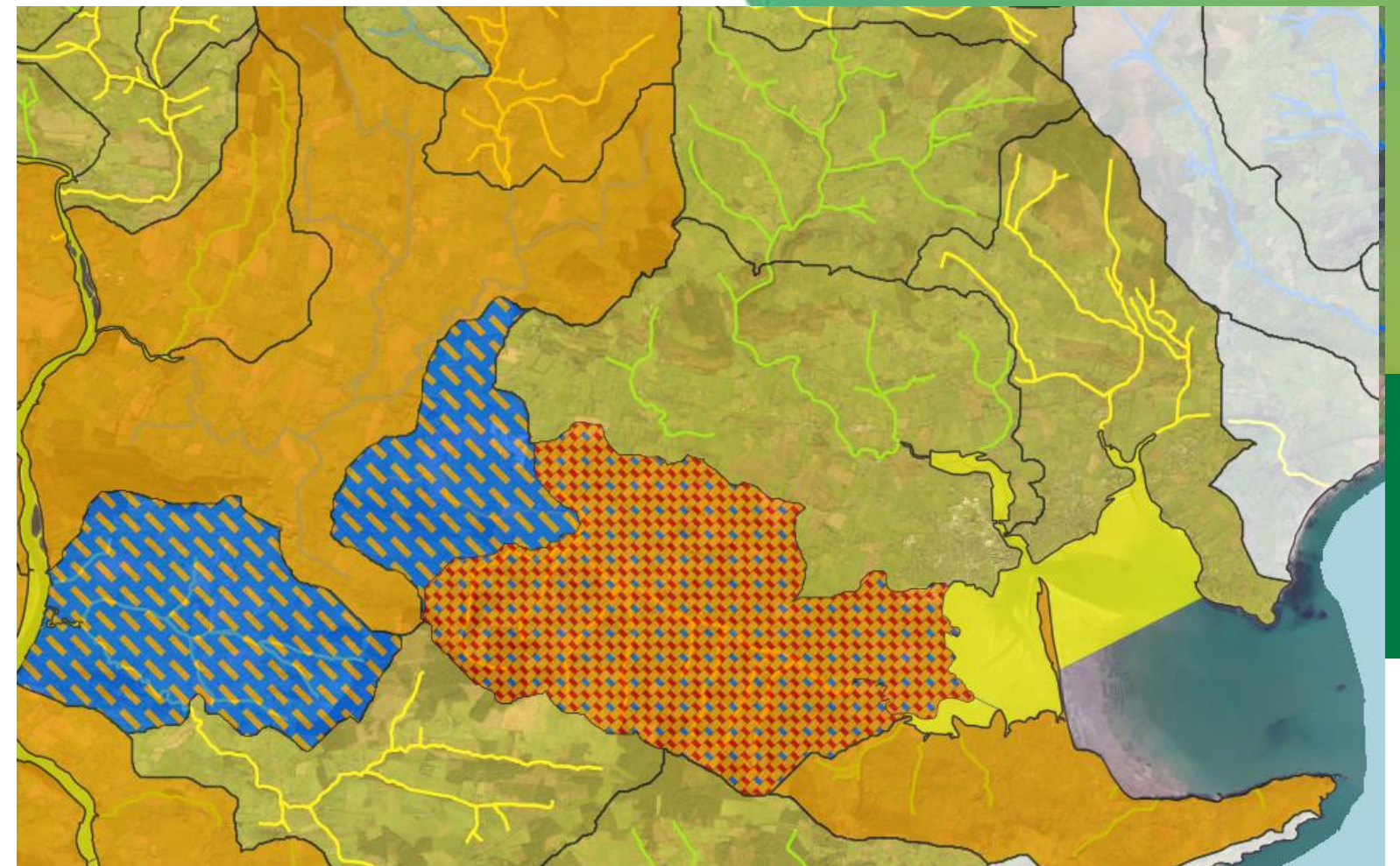


ROADRUNNER



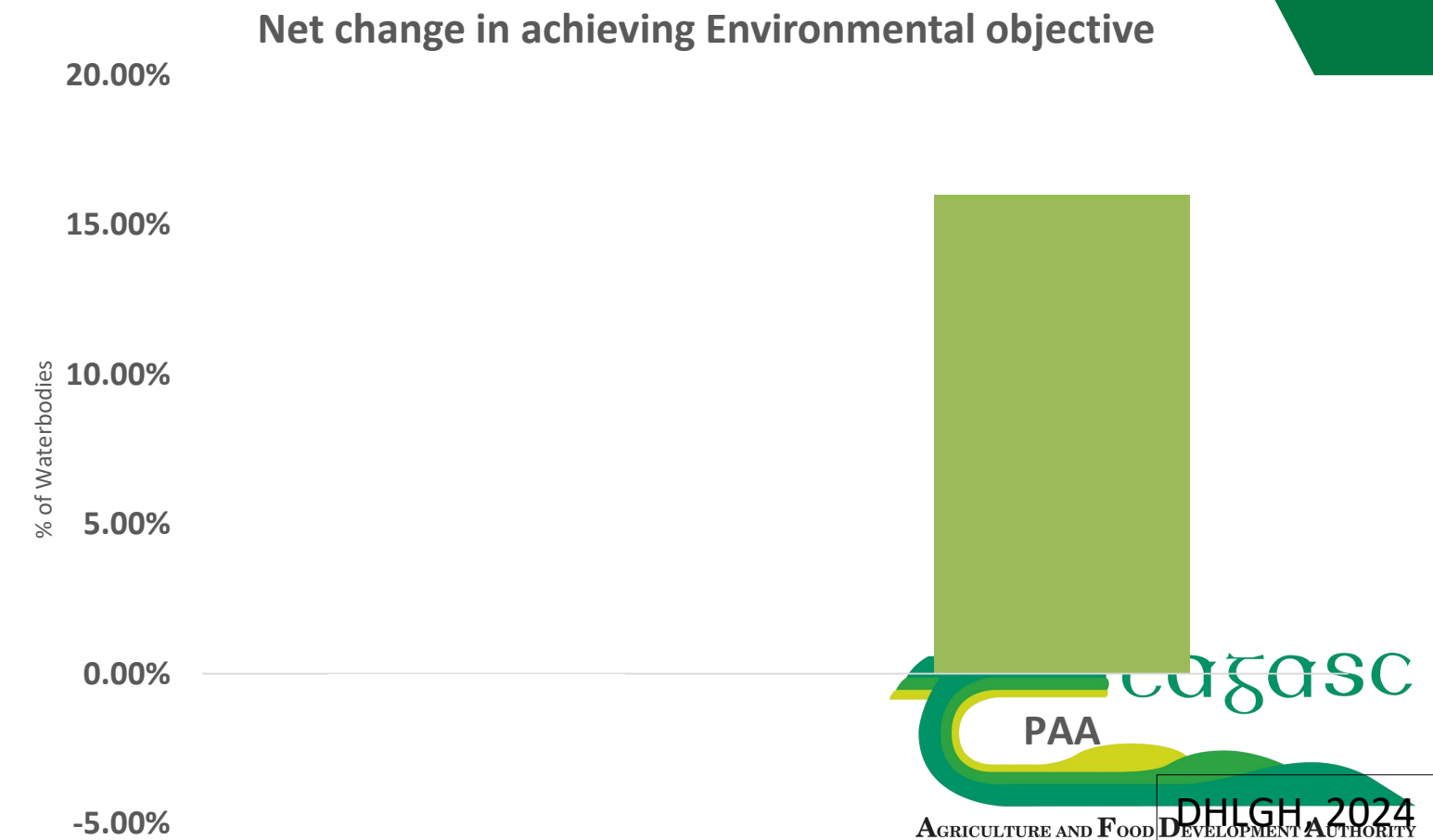
Water quality – Data and tools

- Environmental Protection Agency
 - Water Quality Metrics
 - Pollution Impact Potential (PIP) Maps
- PIP Flow paths



Water quality – Knowledge Transfer

- Agricultural Sustainability Support and Advisory Programme (ASSAP)
- Targeted advice in Priority Areas for Action (PAA)
- > 6,500 consultations
 - Issues identified
 - Measures recommended
- Improvements



Water quality – Multi-actor

- ◆ All stakeholders have a role to play
- ◆ Multi-actor approach = success
 - ◆ Sustained improvements
- ◆ Increased resources



HOME PAGE / NEWS / MUNSTER

Cork farm project achieves 'significant' improvement in river water quality

Programme focused on getting about 100 landowners to help stop run-off pollution into tributaries which primarily feed into the River Blackwater



HOME PAGE / NEWS / MUNSTER

Thousands of fish wiped out in pivotal Munster river after suspected chemical spill

At least 5,000 fish, including salmon, trout, and lamprey were killed along a 4km stretch of Cork's River Allow



It is feared that at least 5,000 fish, including salmon, trout, and lamprey were killed along a 4km stretch of

Better Farming for Water

8-Actions for Change

- 7-year, multi-actor campaign
- Support .. adoption of actions on all farms to improve rivers to Good or High ecological status.
- Focus on three critical management areas:
 - Nutrient management
 - Farmyard management
 - Land management



8-Actions for Change

Nutrient Management

01

Reduce purchased nitrogen (N) & phosphorus (P) surplus per hectare



02

Ensure soil fertility is optimal for lime, phosphorus and potassium



03

Ensure application of fertiliser and organic manure at appropriate times and conditions



Farmyard Management

04

Have sufficient slurry and soiled water storage capacity



05

Manage and minimise nutrient loss from farmyards and roadways



Land Management

06

Fence off watercourses to prevent bovine access



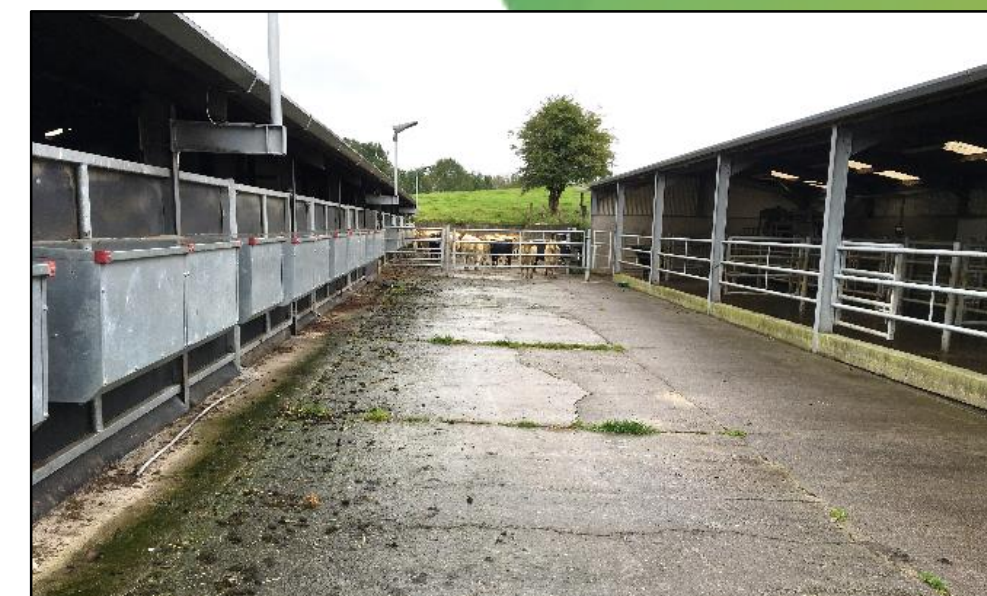
07

Promote targeted use of mitigation actions such as riparian margins, buffer strips & sediment traps to mitigate nutrient and sediment loss to water



08

Maintain over-winter green cover to reduce nutrient leaching from tillage soils



Better Farming for Water

6 key Pillars



Conclusions

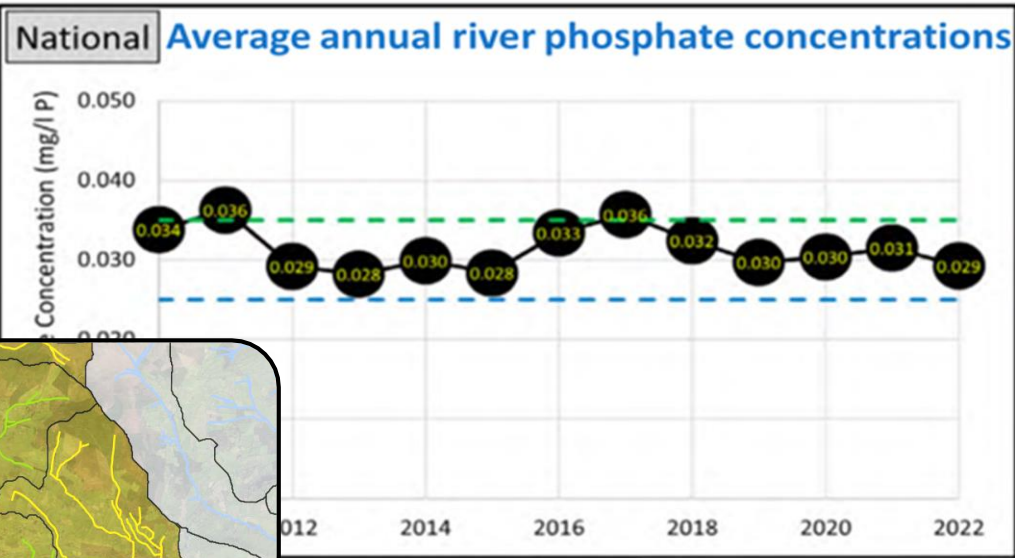
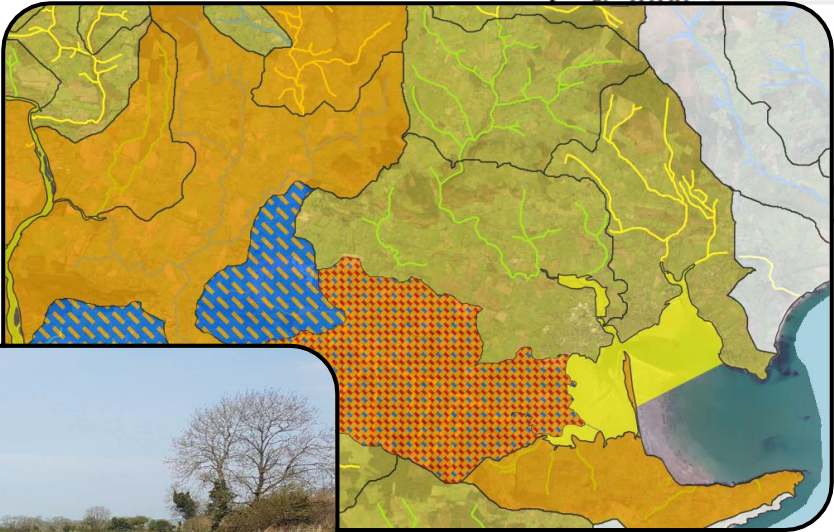
- Science
- Measures and tool
- Knowledge transfer
- Resources
- Multi-actor



HOME PAGE / FARMING

€60m 'Farming for Water' project launched

"This project is a key component in our ongoing effort to improve water quality and the sustainability of our agricultural practices."





Míle buíochas

<https://www.teagasc.ie/environment/water-quality>

