



The Agricultural Catchments Programme:

its role and links into the national strategy in Ireland
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Agriculture and water quality in Ireland

- 56% of Irish land is used for agriculture (93% Grassland and 7% Arable)
- Agriculture and waste water have been found to be the main sources of nutrient losses to water
- 2013-2018 (EPA, 2019): 53% of surface water bodies and 92% of groundwater bodies were in good status
- But, a worrying increase in poor status surface water bodies (EPA, 2019)
- 82% of drinking water is supplied from surface water.



Drivers: policy, agricultural & environmental

- **Nitrates Directive:** Member states are required to assess National Action Programmes
- **Good Agricultural Practice:** in legislation since 2006, this include baseline nutrient mitigation measures
- **Agricultural Catchments Programme:** implemented 2008 (Teagasc) to monitor the efficacy of measures under GAP
- **Water Framework Directive** implementation group 2014 (EPA) to attain and sustain at least good status water
- **Food Harvest 2020 & Food Wise 2025:** increase in knowledge, scientific evidence and value of primary output
- **Climate:** last decade Ireland experienced most rainfall in 300 years; in 2019 Ireland declared climate emergency

- **Food production**
- **Climate change**



- **Science**
- **Environmental policy**

Agricultural Catchments Programme

- Funded by DAFM (2008 – on going), hosted by Teagasc
- Collaborates with >300 farmers across 6 catchments
- Combines biophysical, socio-economic research & Knowledge Transfer
- Objectives:
 - i. Measure the effectiveness of the GAP at catchment scale
 - ii. Evaluate the efficacy of the nitrates derogation (increased stocking rates)
 - iii. Provide scientific basis for policy reviews, with a view to adopt modifications where necessary
- 4th cycle (2020-2024) to include gaseous emission/carbon sequestration

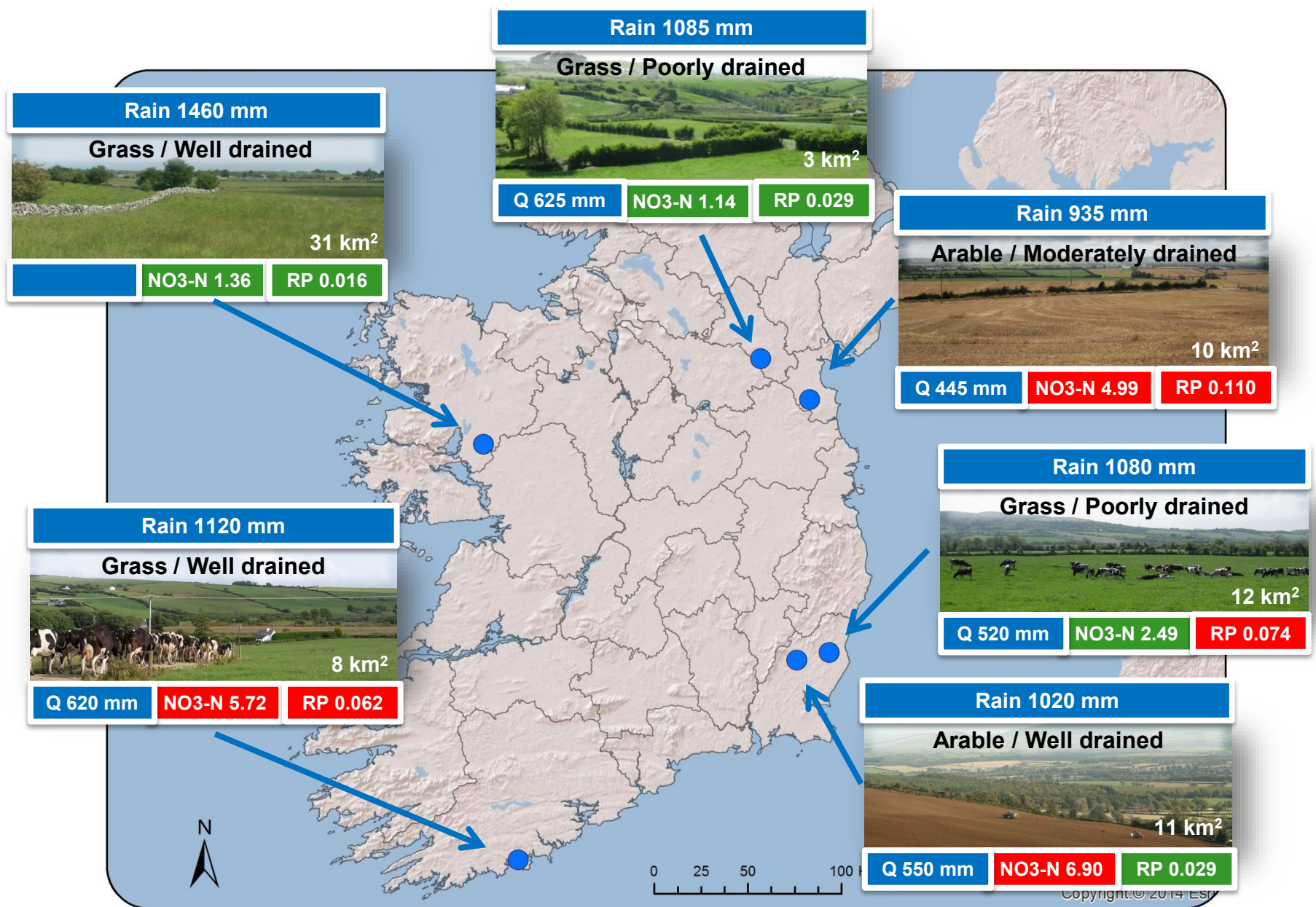


ACP activity

- Research and science dissemination
- Contribute to policy with science in collaboration with stakeholders
- Collaborate & host research projects, e.g. WaterProtect
- Training: PhD students, visiting students and specialist advisors
- One-to-one/ group advisory service: agriculture, finance & environment
- KT Groups, Discussion groups, Public events & Farm Walks
- Engage with specialist advisors: action in the field at national level

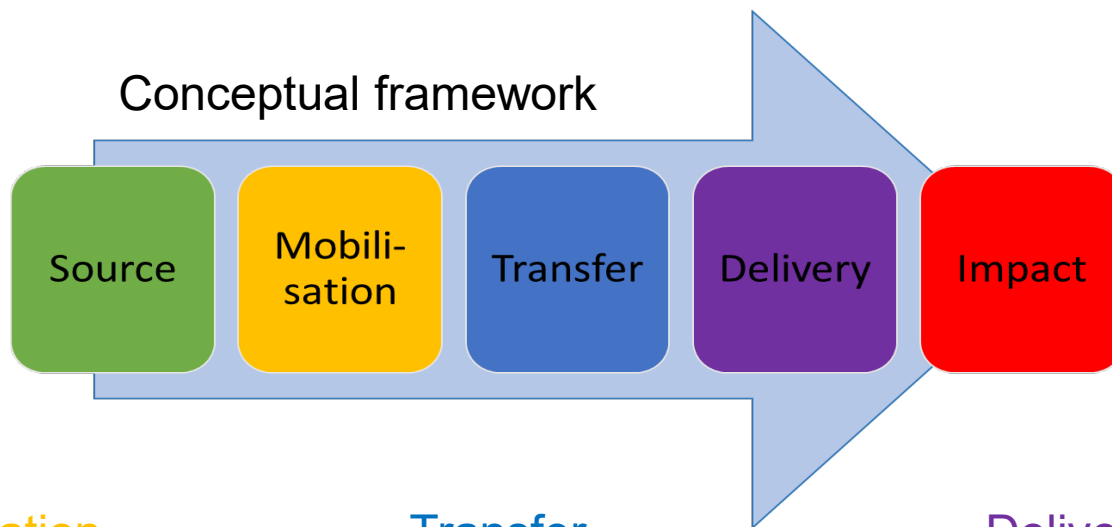


Catchments: 10-years of water quality monitoring



Experimental design

Conceptual framework



Drinking water survey

Impact

Source & Mobilisation

Transfer

Delivery



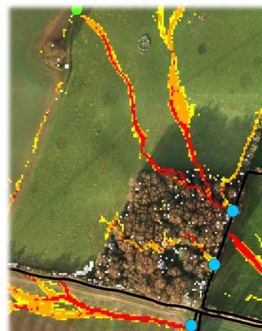
Farm management



Soil sampling



Weather



Surface pathways



Below ground pathways



Continuous water quality & quantity



Ecological survey

Some findings

- Measures must be targeted & efficient: requires good uptake by farmers
- Continuous monitoring has given an understanding of the pollutant mobilisation and transfer processes to water. This can be up-scaled to other areas using national data sets to understand trends
- There are no “one size fits all” solutions due to different catchment typologies based on e.g. soil/bedrock permeability and chemistry
- Different dominating pressures: i) source; ii) mobilisation and iii) transport
- Overriding climate pressure, long-term changes & short-term extremes



Thank you!

