# Research and Innovation Needs *Conference*

***10am, 28th November 2023***
***Dunadry Hotel, Antrim***

AgriSearch NI
Driving Excellence & Innovation

# Welcome & Introduction

Prof. Gerry Boyle

Chair AgriSearch

AgriSearch NI
Driving Excellence & Innovation

# Panel Discussion

Facilitator: Ian McCluggage

Vice-Chair AgriSearch

AgriSearch NI
Driving Excellence & Innovation

# Upland research needs: pathways to impact

**Professor Phil Jordan**
School of Geography and Environmental Sciences

# School of Geography and Environmental Sciences

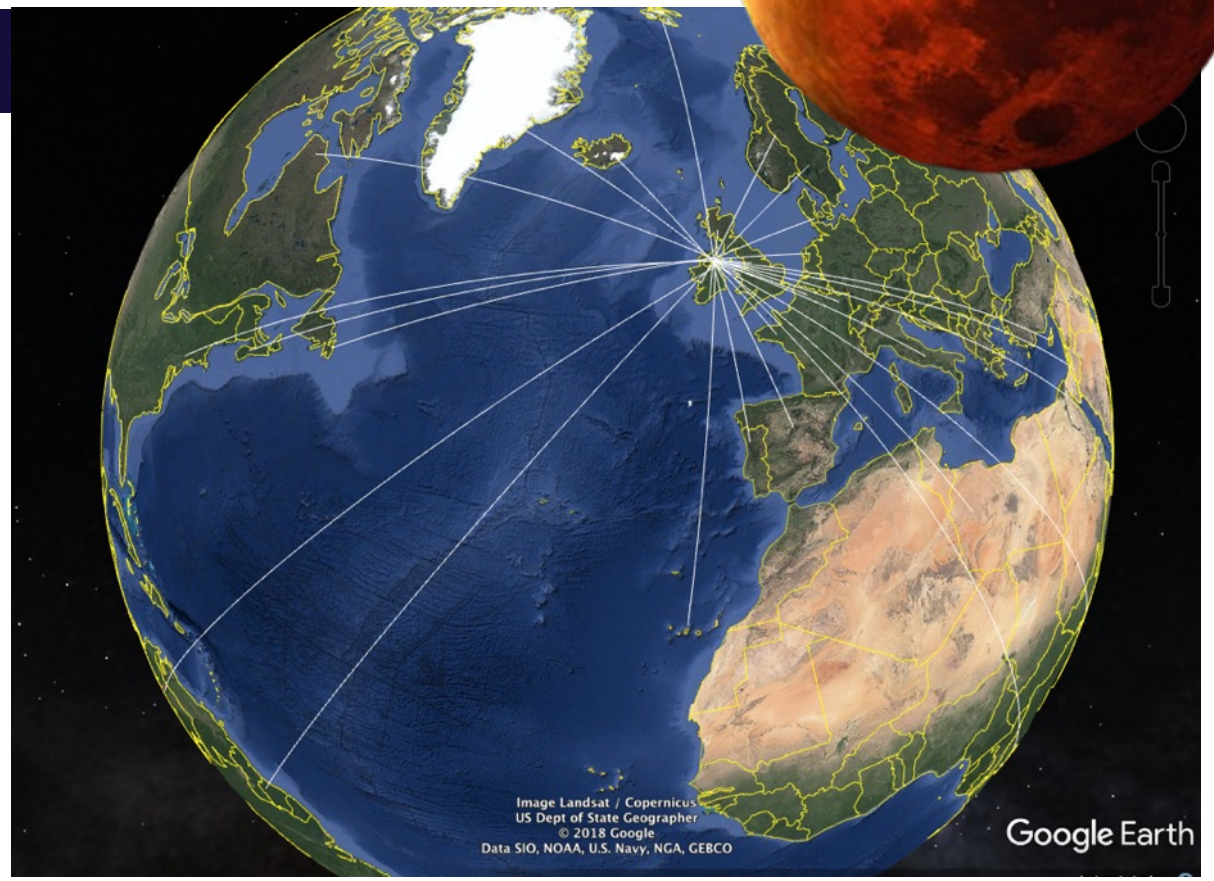
- One of eight Schools in the Faculty of Life and Health Sciences
- Established in 1969

- **Two cross-cutting research clusters:**
    1. Environmental Processes, Management and Sustainability
    2. Heritage, Conflict and Society

# School of Geography and Environmental Sciences

## RESEARCH PRESENCE:

- 5 CONTINENTS
- 31 COUNTRIES
- 3 WORLD OCEANS
- 2 PLANETS




GES People

Ulster University

# AT A GLANCE

**92%**

OF OUR GRADUATES ARE IN EMPLOYMENT OR FURTHER STUDY WITHIN 6 MONTHS OF GRADUATING (DLHE, 2018)

**81%**

OF OUR STUDENTS GRADUATE WITH A 1ST OR 2.1

**100%**

OF OUR STUDENTS DEVELOP HIGHLY SOUGHT AFTER EMPLOYABLE SKILLS IN GIS AND REMOTE SENSING

WE ACHIEVED

**100%**

OVERALL STUDENT SATISFACTION 7 CONSECUTIVE YEARS
(National Student Survey 2014-2020)

WE ARE RANKED

**1st in NI / 3rd in UK**

FOR STUDENT SATISFACTION OUT OF 70 UNIVERSITIES FOR GEOGRAPHY & ENVIRONMENTAL SCIENCE
(Complete University Guide, 2021)

**100%**

OF OUR STUDENTS ARE OFFERED ONE YEAR STUDY ABROAD OR INDUSTRIAL PLACEMENT OPTIONS

## RESEARCH

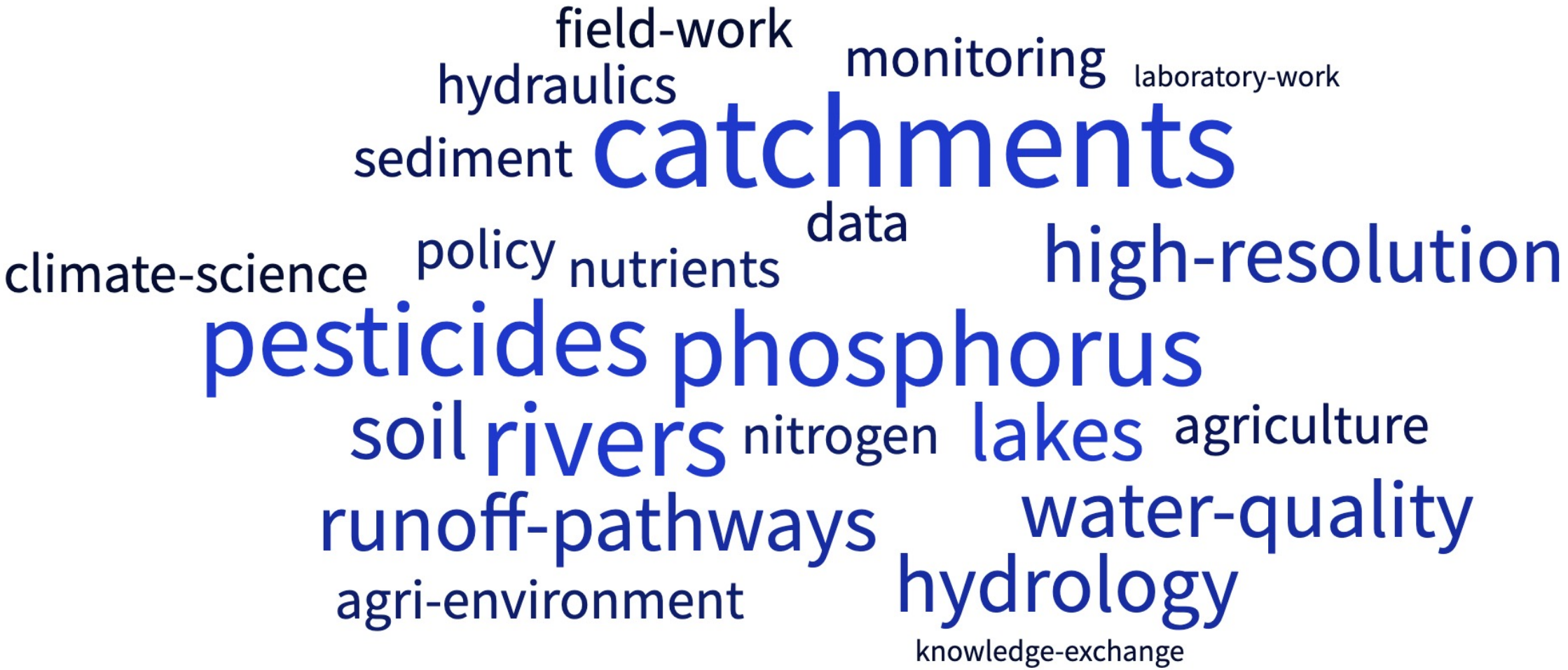
**88%**

**RESEARCH OUTPUTS JUDGED WORLD-LEADING OR INTERNATIONALLY EXCELLENT**

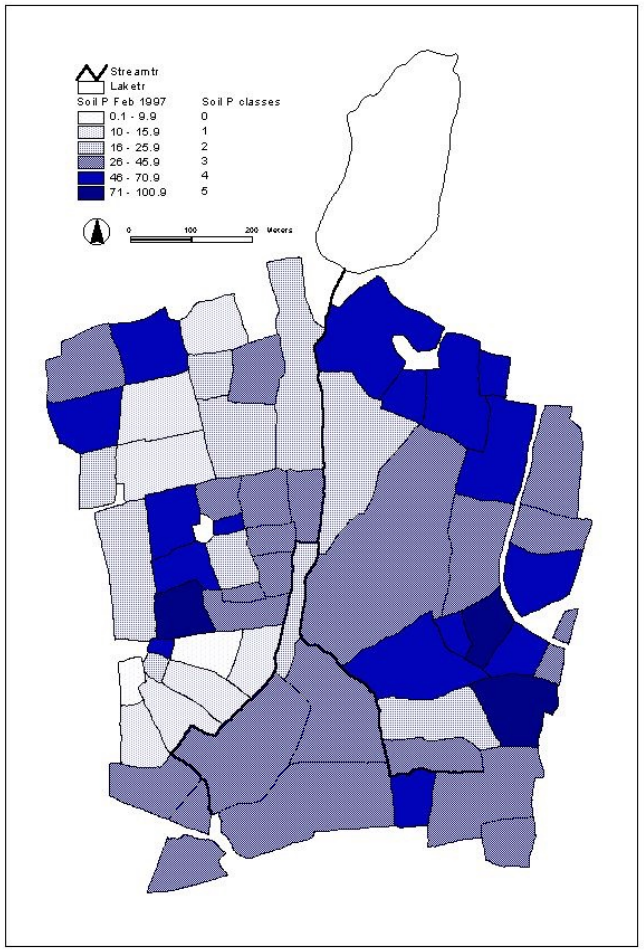
**100%**

**IMPACT CASE STUDIES JUDGED AS HAVING OUTSTANDING OR VERY CONSIDERABLE IMPACTS**

# The agri-environment: value of research



# The agri-environment: value of research

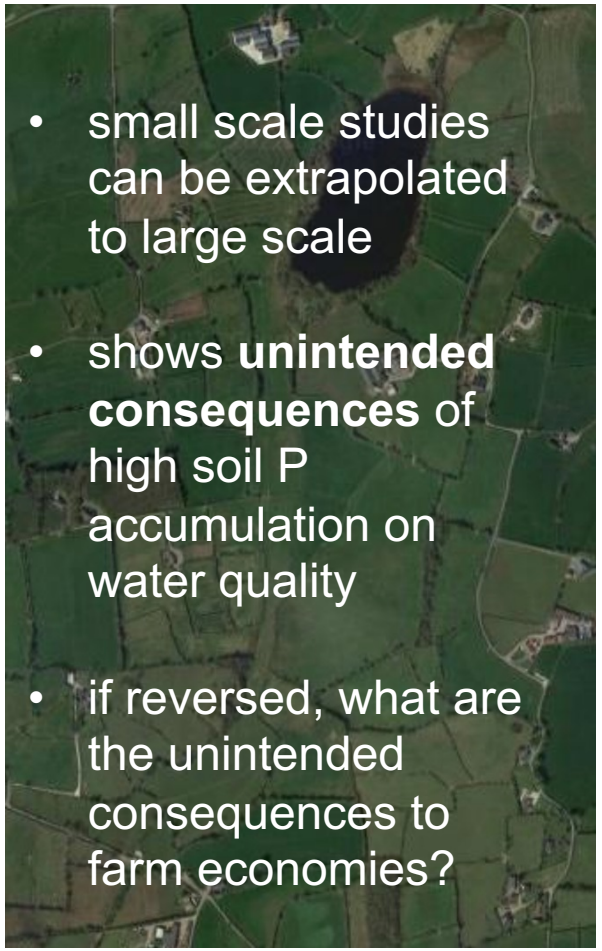



Field by field soil phosphorus mapping

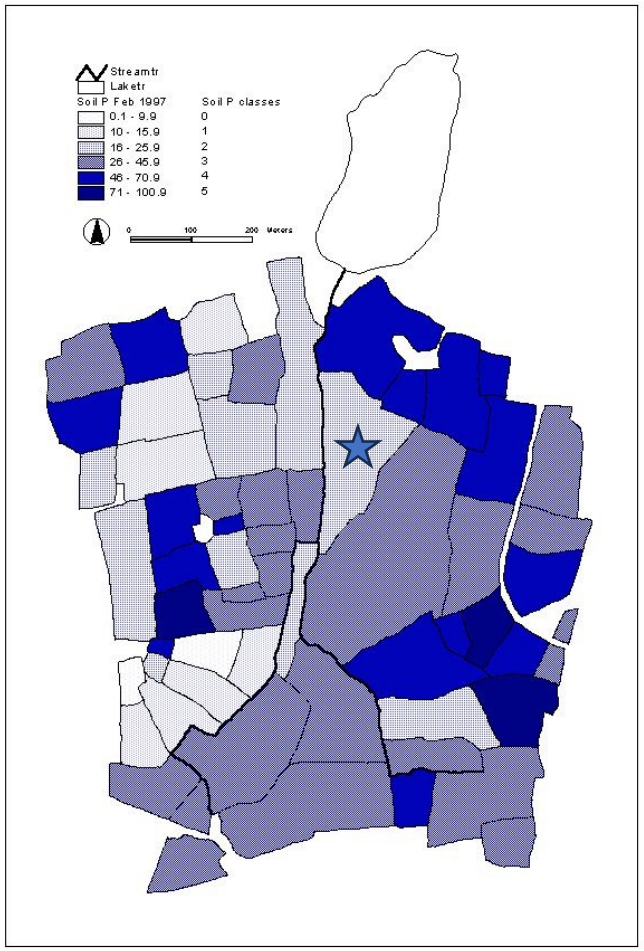
Friary Lough, Co. Tyrone 1997

*Jordan,1999*

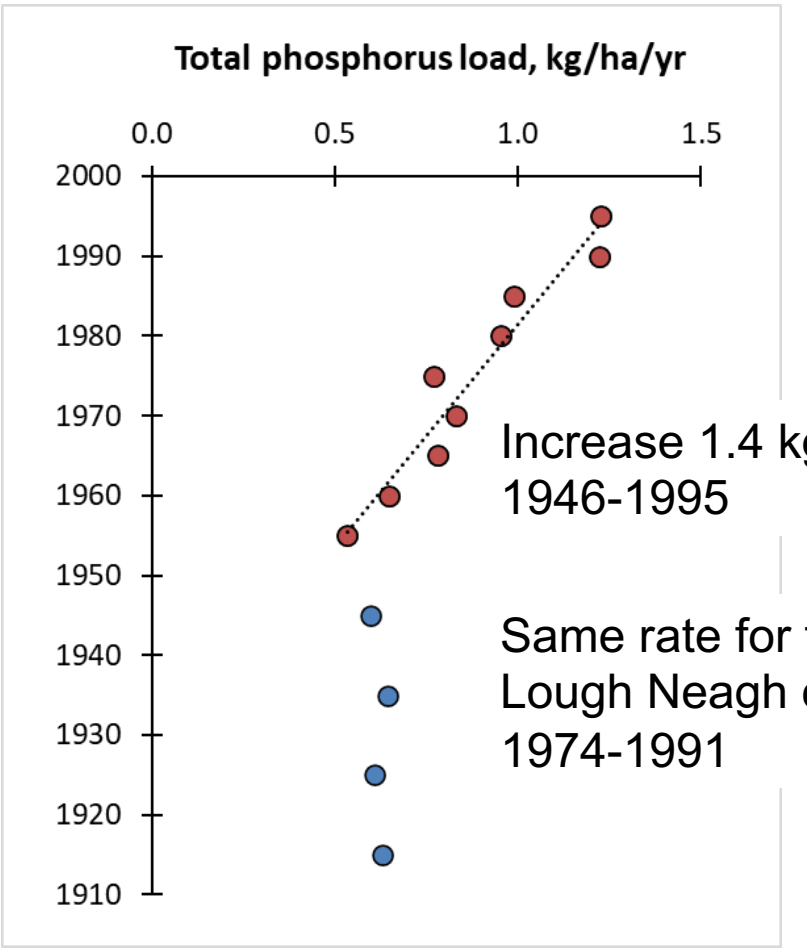
# The agri-environment: value of research



- small scale studies can be extrapolated to large scale
- shows **unintended consequences** of high soil P accumulation on water quality
- if reversed, what are the unintended consequences to farm economies?




★ Optimum soil P (darker is above optimum)

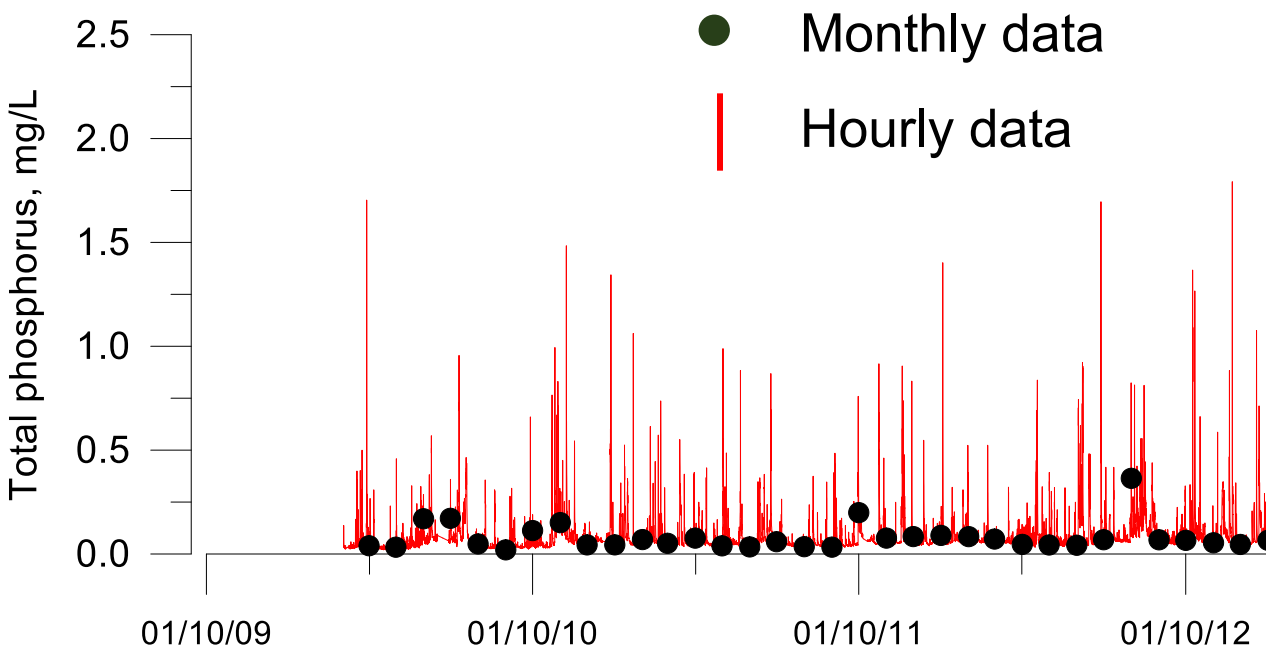



Increase 1.4 kg/km$^2$/yr 1946-1995

Same rate for the whole Lough Neagh catchment 1974-1991

*Jordan et al. 2001*

# The agri-environment: value of research

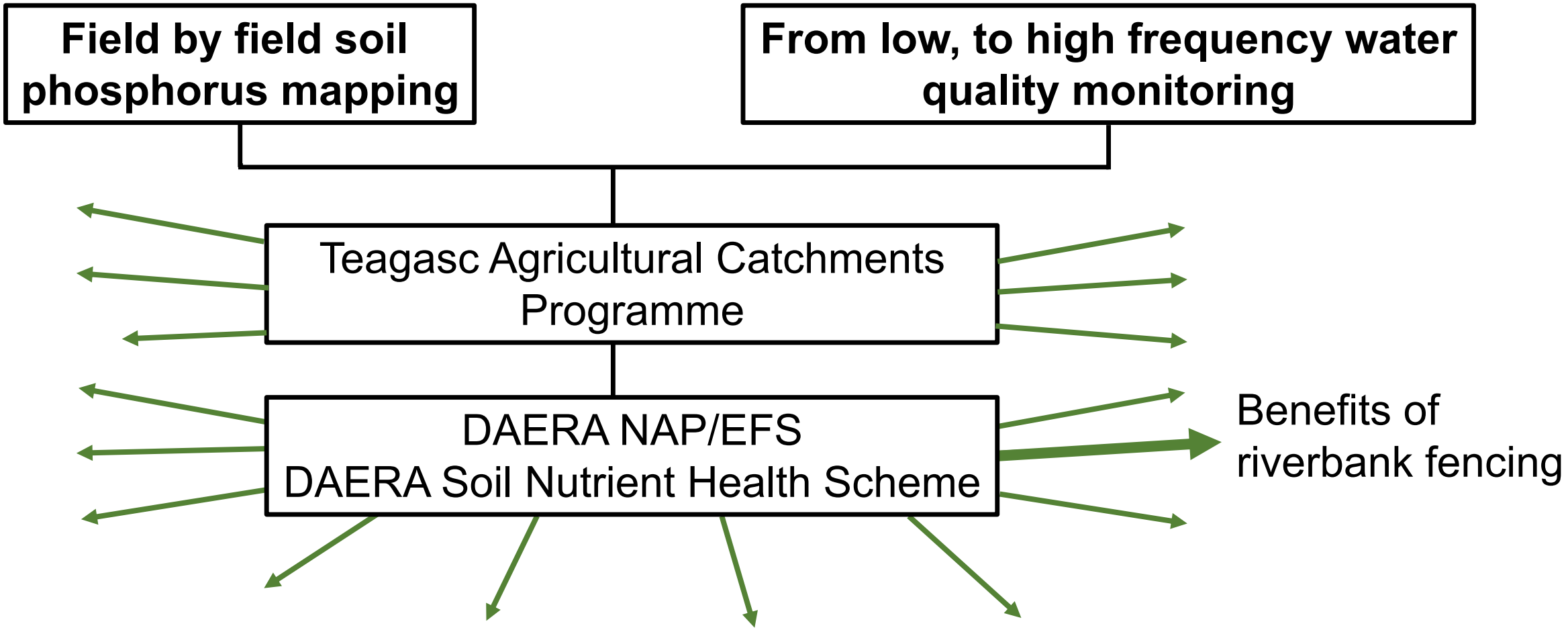



From low, to high frequency water quality monitoring

[can determine presence of non-farm P in rivers such as septic tanks, etc.]

*Jordan et al., 2007*

# The agri-environment: value of research



# The benefits of riverbank fencing

| | |
|---|---|
| How much soil and P loss is there from cattle access points into rivers? | **200 kg/m and 75 g/m per year** |
| What is the percentage of cattle access per river-bank field? | **1.9 %** |
| How many km riverbank fencing installed as part of EFS? | **2,493 km** |
| How many km of cattle access point fenced? | **48 km** |
| What is the total mass soil and P saved through fencing? | **10,000 t and 4 t per year** |

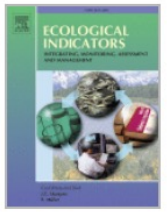
# The benefits of riverbank fencing

https://doi.org/10.1016/j.ecolind.2023.111067

ELSEVIER

Ecological Indicators

Volume 155, November 2023, 111067



## Quantifying nutrient and sediment erosion at riverbank cattle access points using fine-scale geo-spatial data

Alison Scott [a b], Rachel Cassidy [b], Joerg Arnscheidt [a], David Rogers [a], Phil Jordan [a]

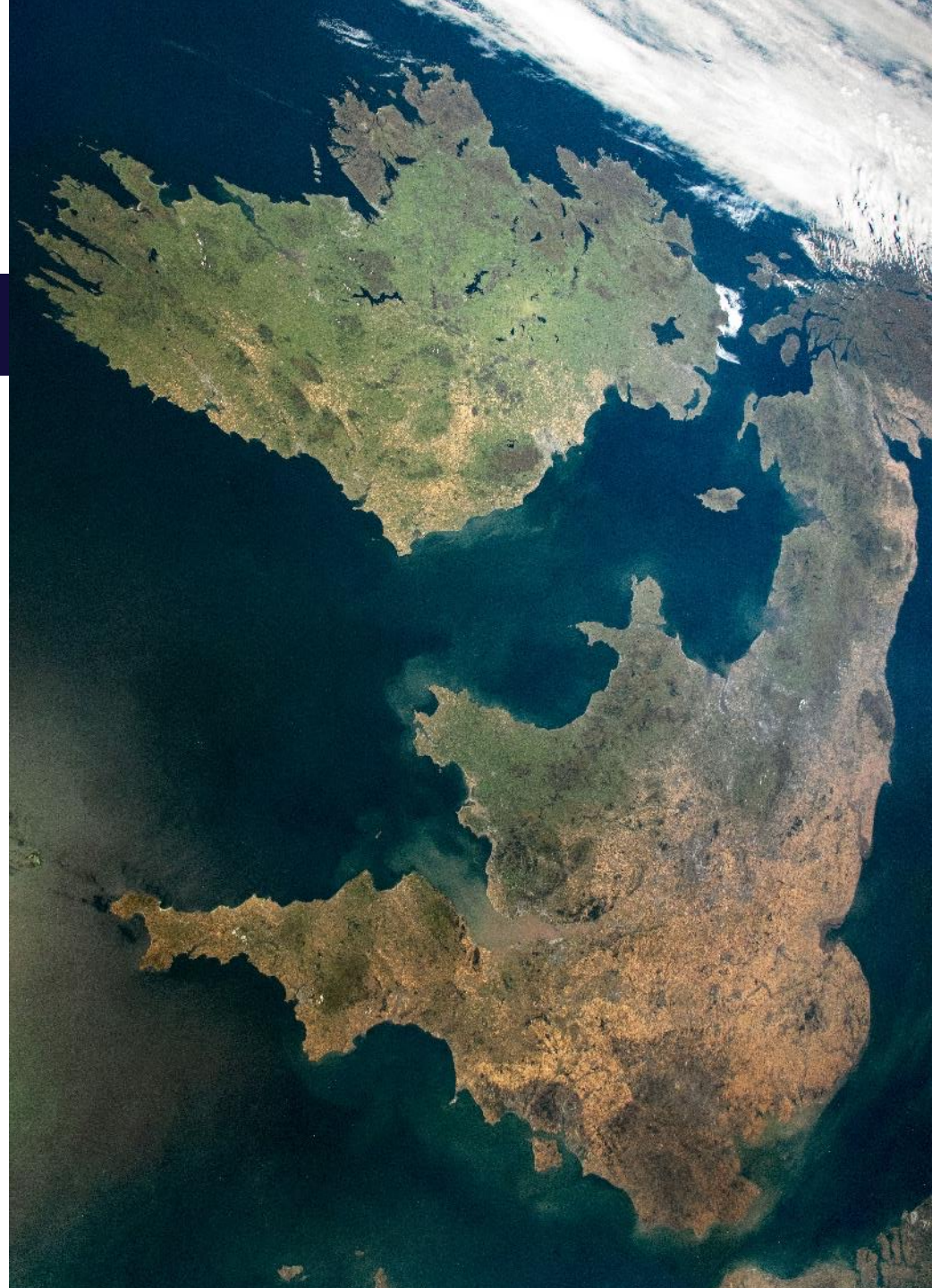
# Climate science and land use

## NET ZERO and RESILIENCE

*NI committed to meeting ambitious net zero targets.*

*Need for large scale transformation in the way land is used and managed to achieve net zero targets.*

*Important for a joined-up approach in order to make maximum impacts.*



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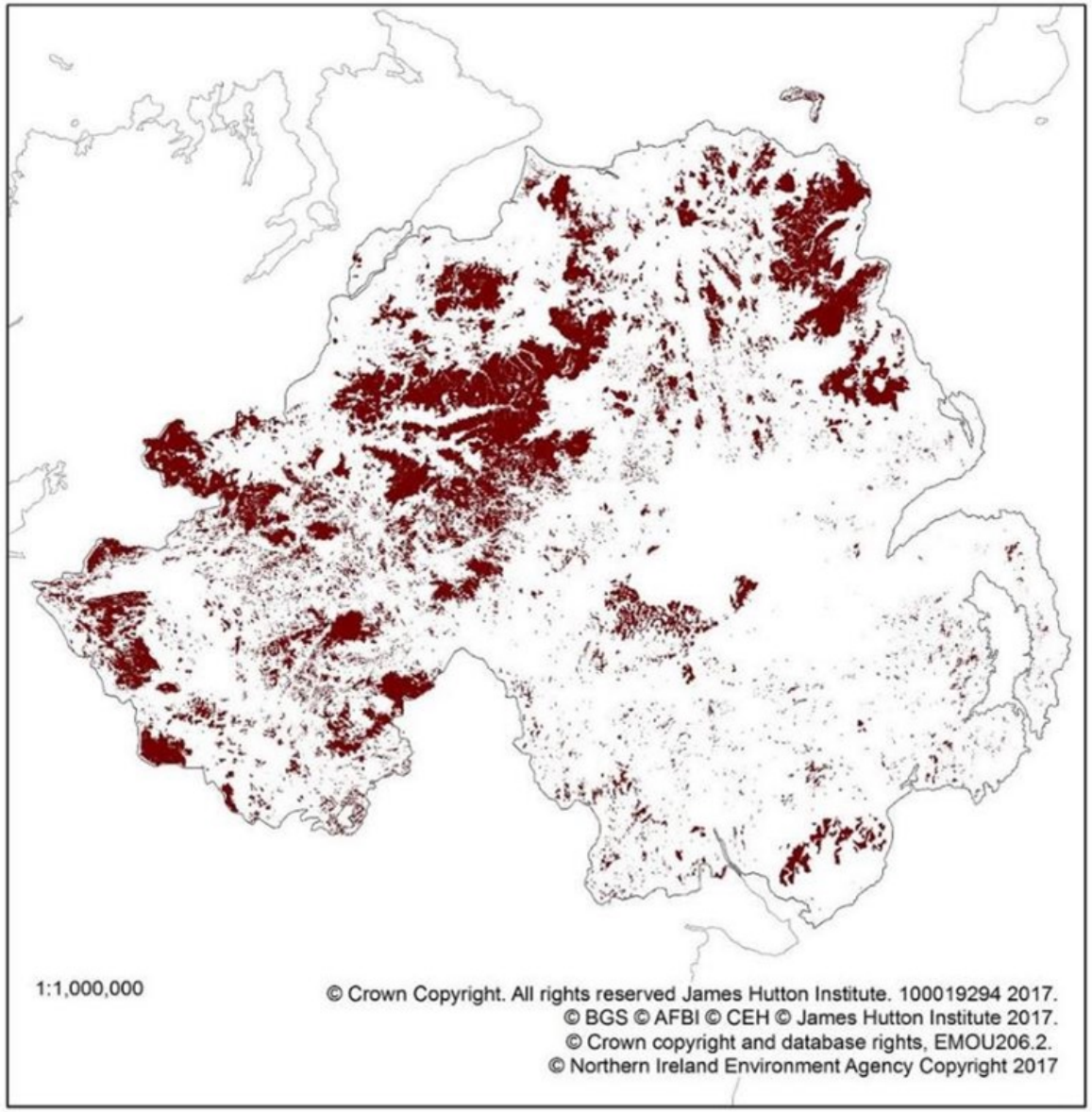
**Consider the requirements of the uplands:**

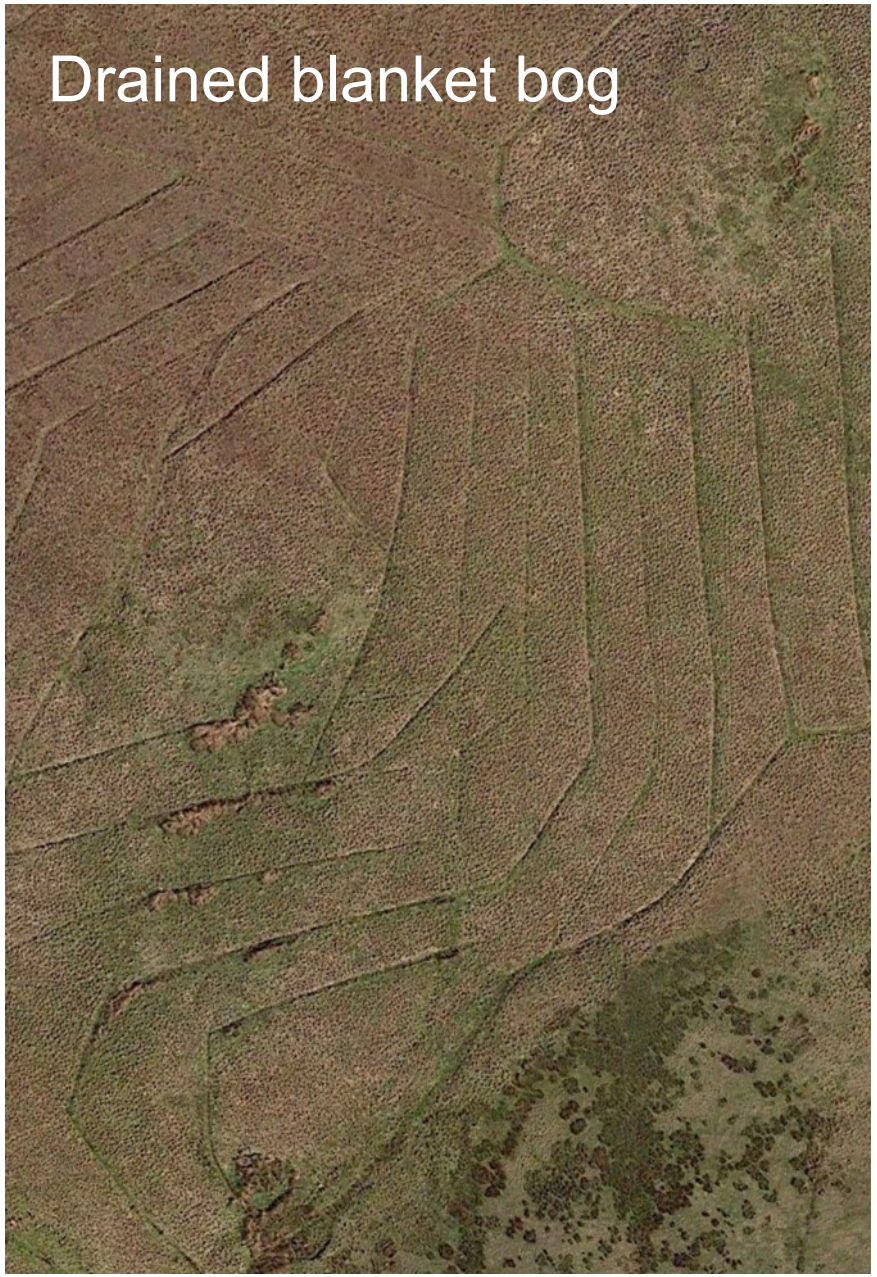
- Food production
- Climate science
- Biodiversity
- Slope stability
- Water regulation
- Fire prevention
- Cultural value




Peatland in NI, much in the uplands

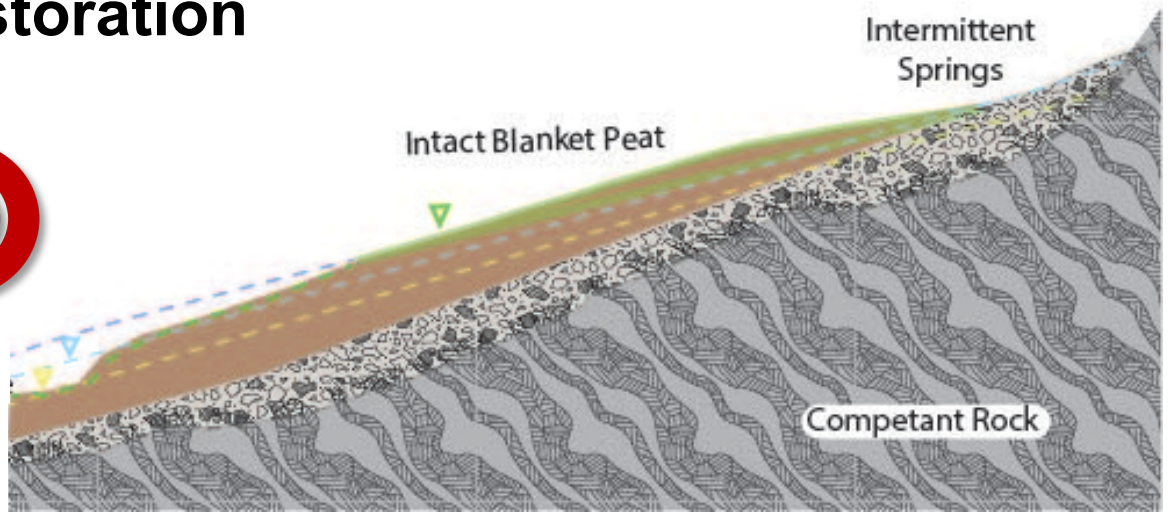
**Consider the requirements of the uplands:**

- Food production
- Carbon
- Biodiversity
- Slope stability
- Water regulation
- Fire prevention
- Cultural value

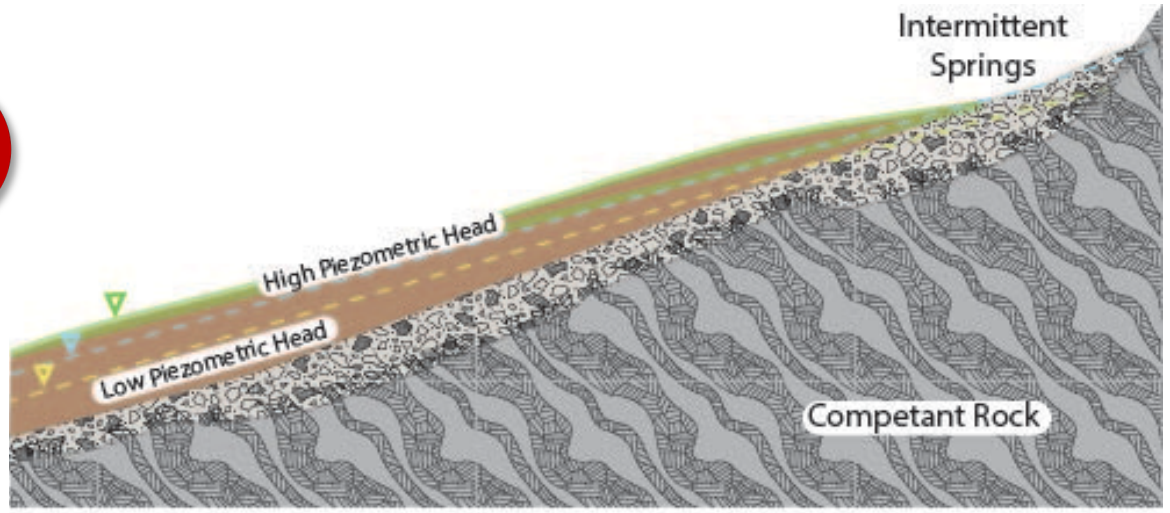


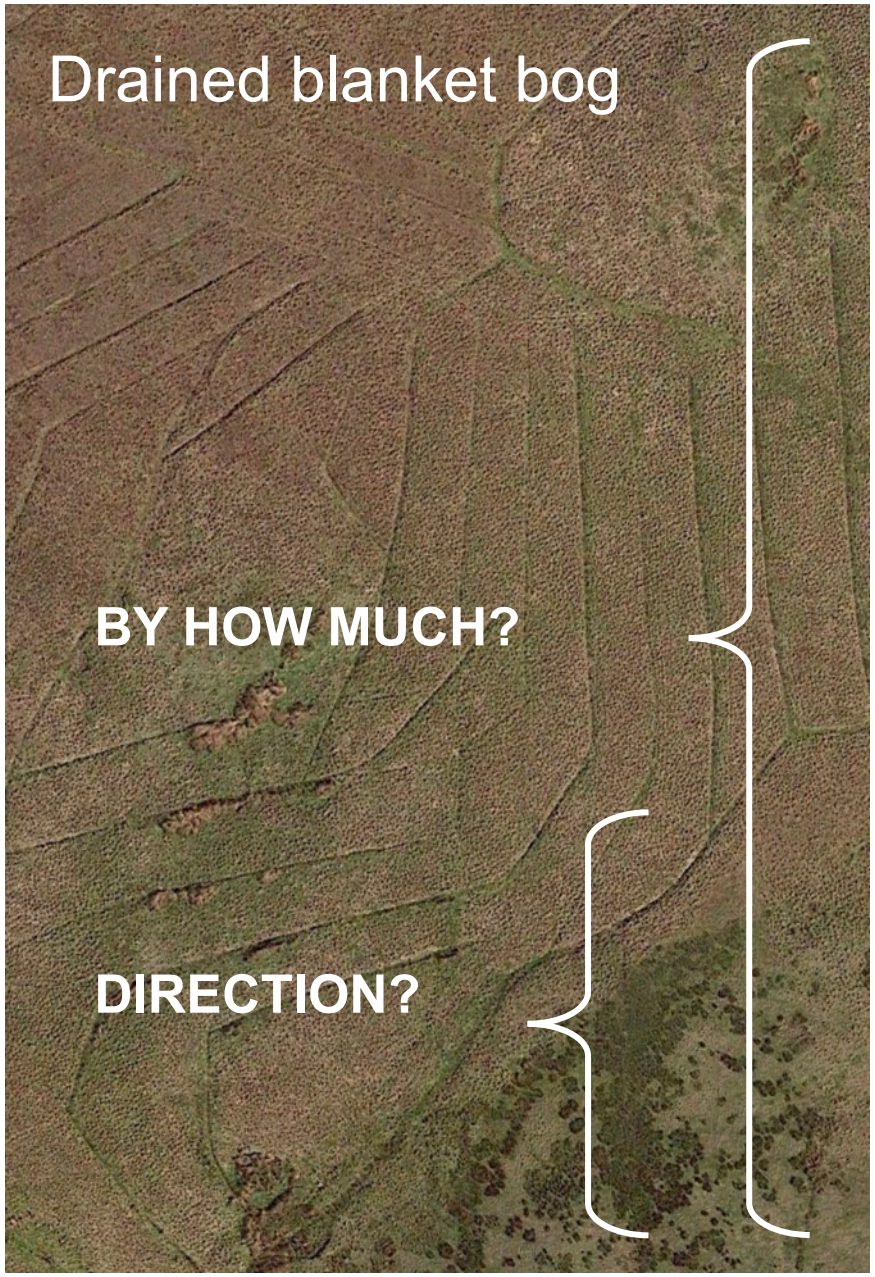

# Upland peat restoration

Reduced and fluctuating water table from drainage



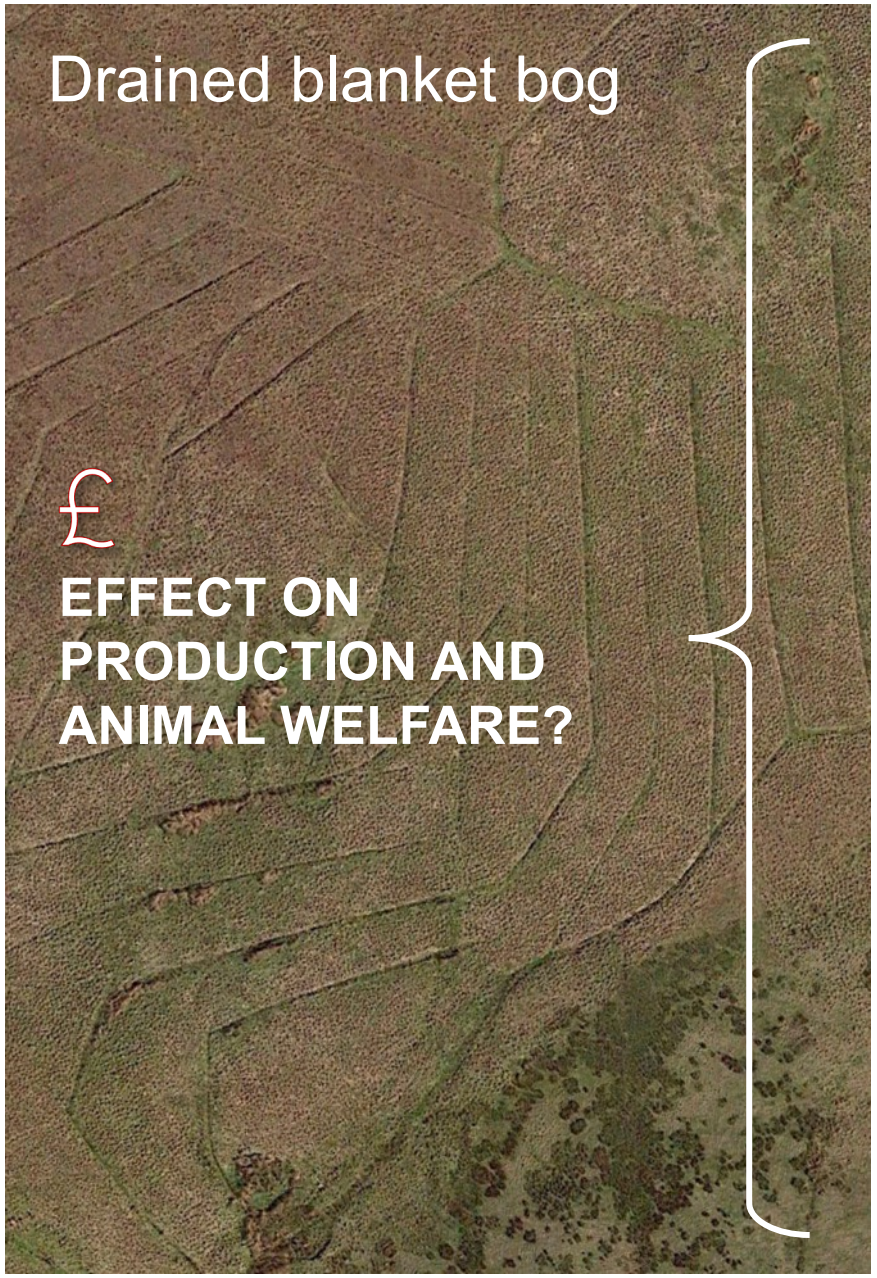

High and constant water table from restoration [reduce carbon loss]






**Restored (formerly drained) upland peat has potential to:**

- Reduce $CO_2$ gas flux (sweet spot to keep $CH_4$ low)
- Reduce DOC/POC fluvial flux
- Sequester carbon
- Attenuate water – reduce flood peaks and increase baseflow
- Reduce risk of wildfire (higher summer water head)
- Change slope stability
- Change biodiversity
- Change farming economy
- Change intrinsic value (cultural services)

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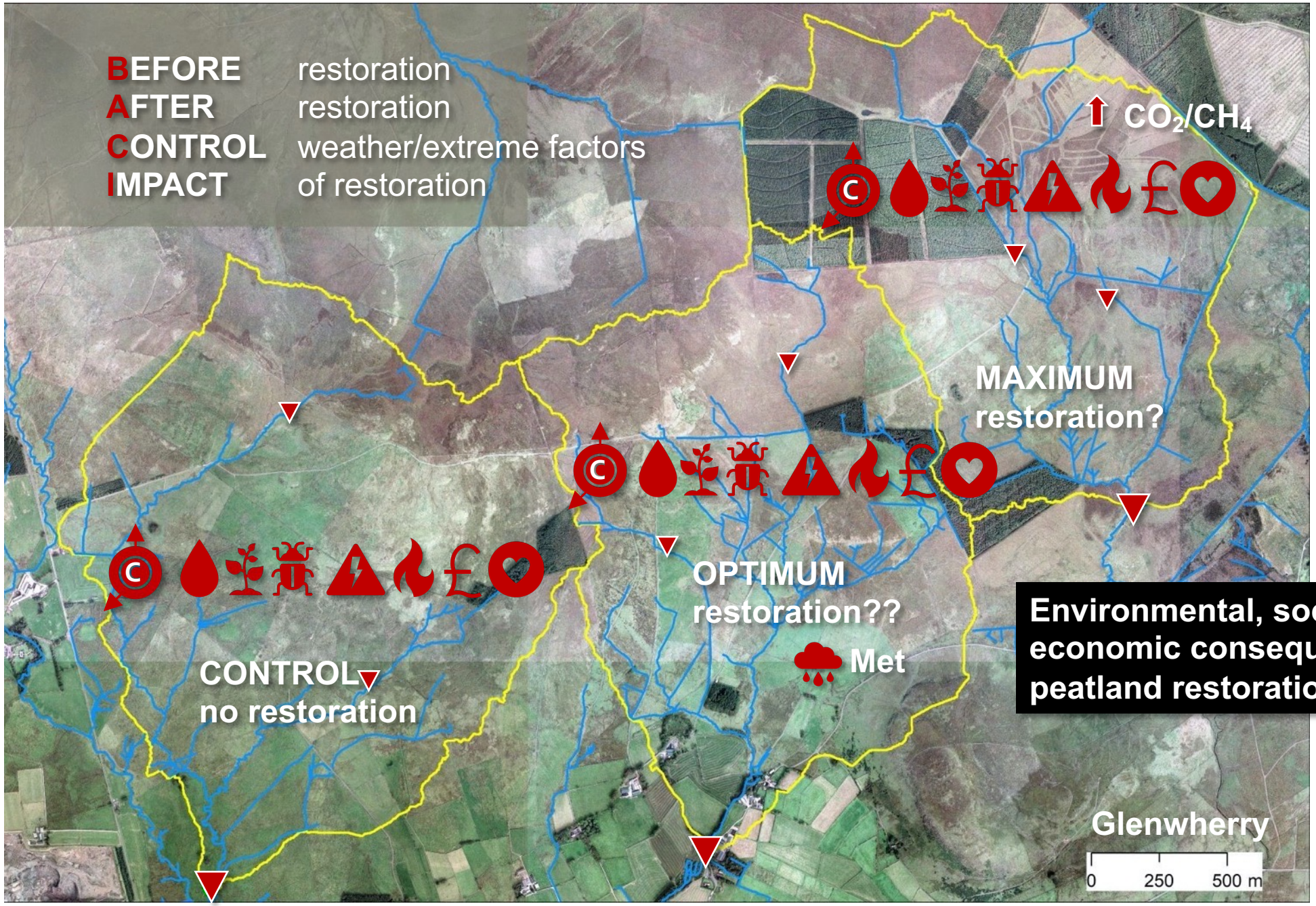
**Research challenge:**
**QUANTIFICATION TO VALUE ECOSYSTEMS' SERVICES AND UPDATE FARMING SUPPORT**

# Demonstrate…

**CAFRE**
**Glenwherry Hill Farm**

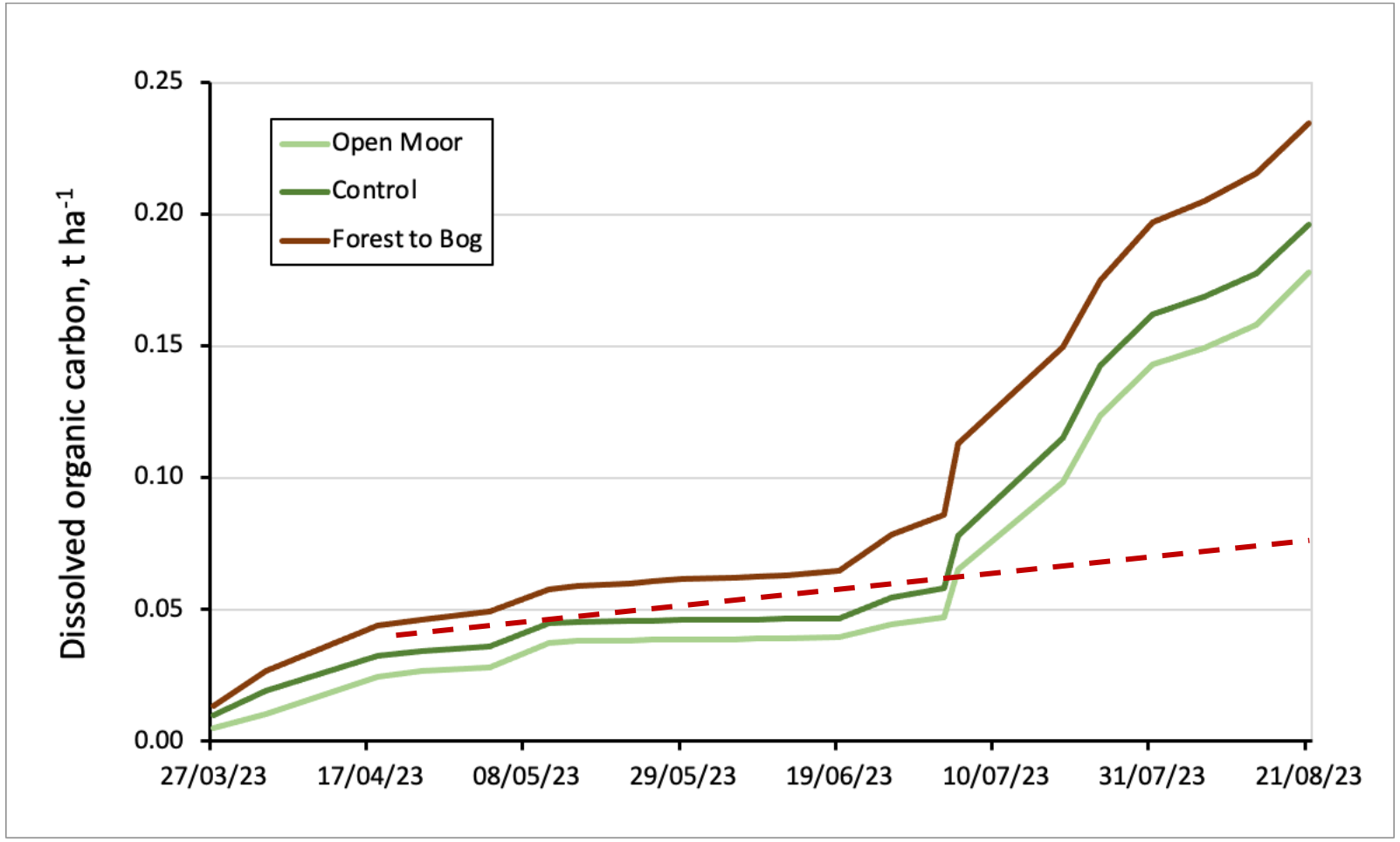

BEFORE restoration
AFTER restoration
CONTROL weather/extreme factors
IMPACT of restoration
⇧ $CO_2/CH_4$
MAXIMUM restoration?
OPTIMUM restoration??
Met
CONTROL no restoration
Environmental, social, economic consequences of peatland restoration??
Glenwherry
0 250 500 m

**A start…**

**New field and lab equipment 2023**

- Bespoke flumes for streamflow
- Weather stations
- Water quality sensors
- Carbon analyser

# Dissolved carbon cumulative load summer 2023




Observed
(dry June, wet July)

Anticipated

Role of extreme weather conditions…

# Upland research needs: pathways to impact

**Issues best tackled using a multi-actor approach**

***Kendall (2022)*** **report proposes DAERA-AFBI-CAFRE-UU-QUB partnerships**


## Demonstration farms

Three pillars of sustainability—environmental, social and economic

# Upland research needs: pathways to impact

**Professor Phil Jordan**
School of Geography and Environmental Sciences


www.UlsterUniGES.com
www.ulster.ac.uk/ges
Publications 2001-2023

- Research can be difficult to codify into policy
- Narrative may be inconvenient
- Narrative may have unintended consequences unless all three pillars of sustainability are included…
- …at all scales of research (from field trials up to catchments)

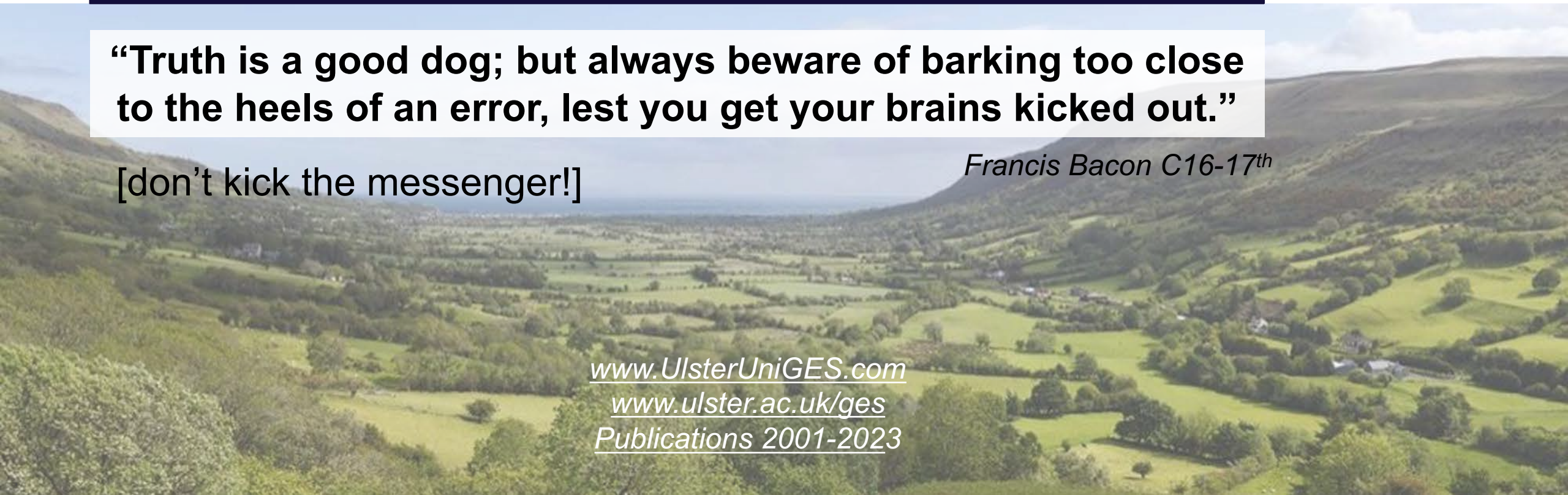
# Upland research needs: pathways to impact

**Professor Phil Jordan**
School of Geography and Environmental Sciences

**“Truth is a good dog; but always beware of barking too close to the heels of an error, lest you get your brains kicked out.”**

*Francis Bacon C16-17th*

[don’t kick the messenger!]



www.UlsterUniGES.com
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Publications 2001-2023

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IGFS THE INSTITUTE FOR GLOBAL FOOD SECURITY

# AgriSearch Research & Innovation Needs Conference

## Institute for Global Food Security

Prof Nigel Scollan

Prof Nigel Scollan

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THE INSTITUTE FOR GLOBAL FOOD SECURITY

# Delivering on challenges in agriculture and food security

**Food security:** when all people, at all times, have physical, social and economic access to sufficient, safe & nutritious **food** that meets their dietary needs and **food** preferences for an active and healthy life

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**Planetary Health**

**Food Systems**

**Human Health**

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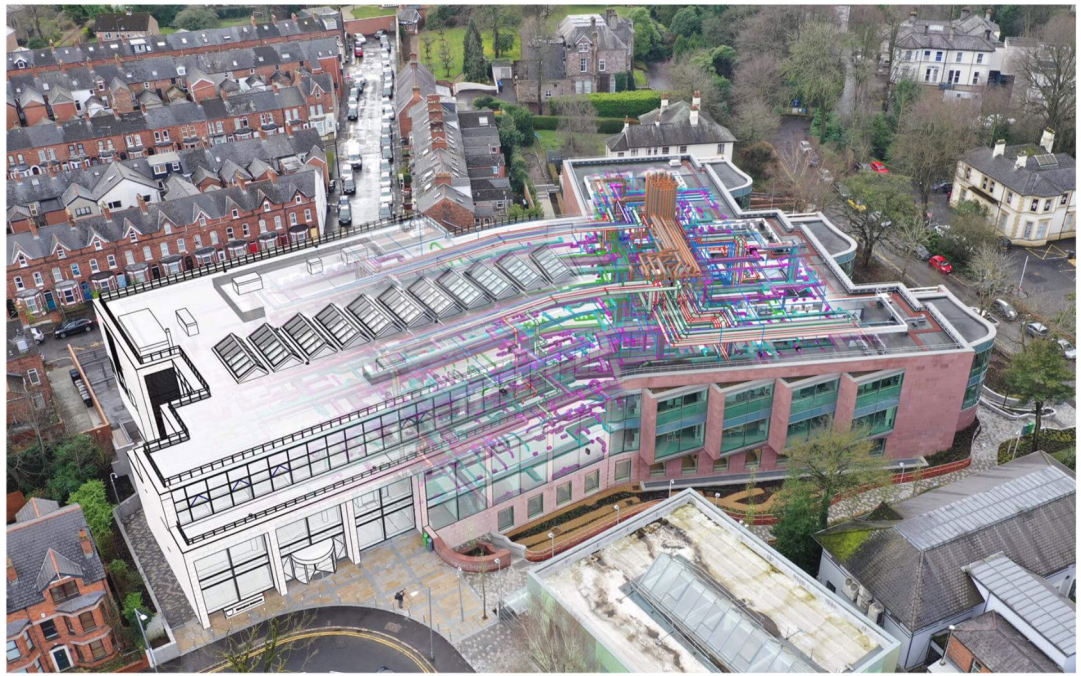
# School of Biological Sciences and Institute for Global Food Security



The School and institute address key, international challenges, with World-leading excellence in the following areas:

1.Food integrity
2.Agriculture & Climate change
3.Nutrition and Preventive Medicine
4.Data Innovation and Enabling Technologies

Underpinned by disciplinary excellence.

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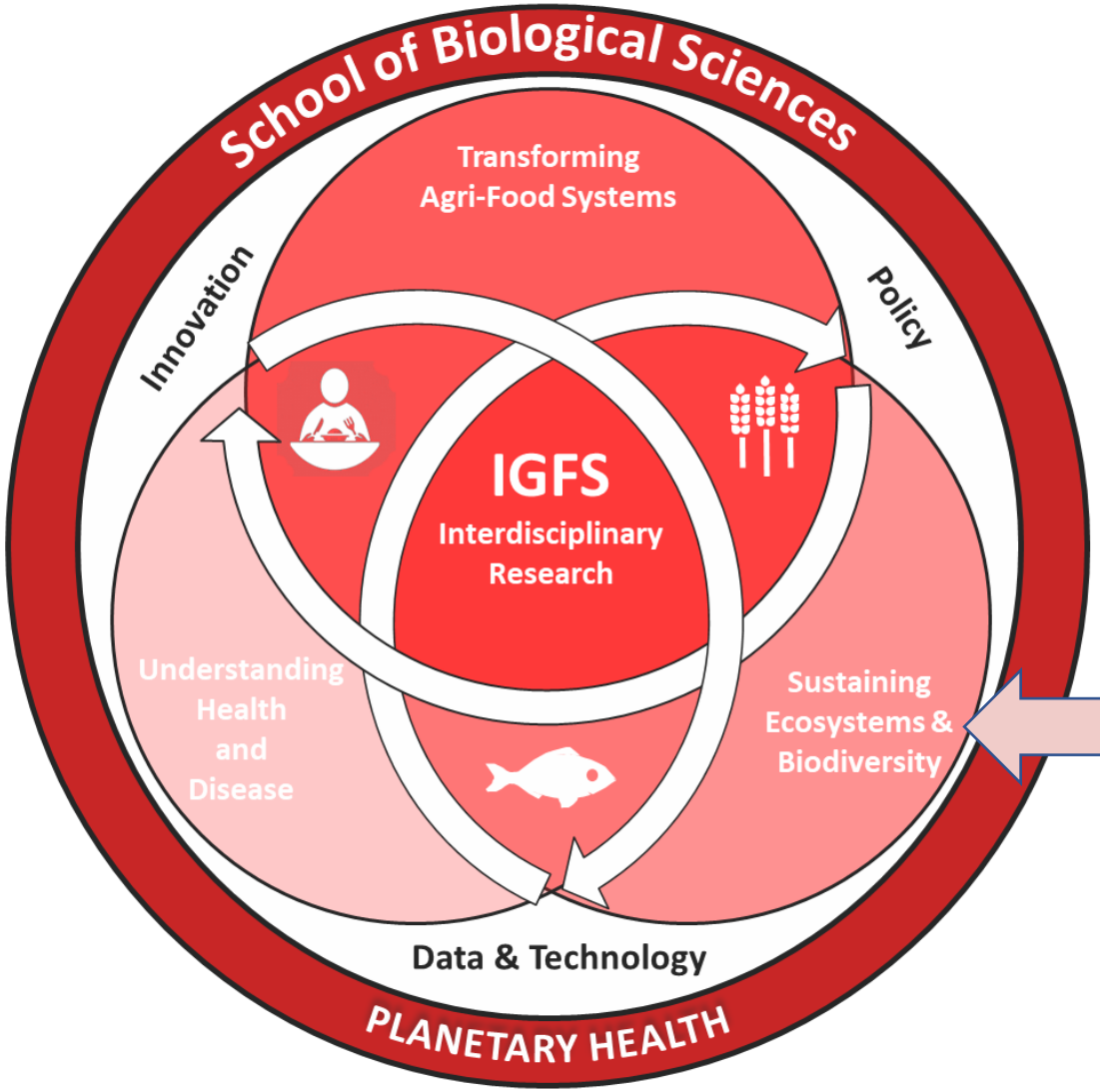
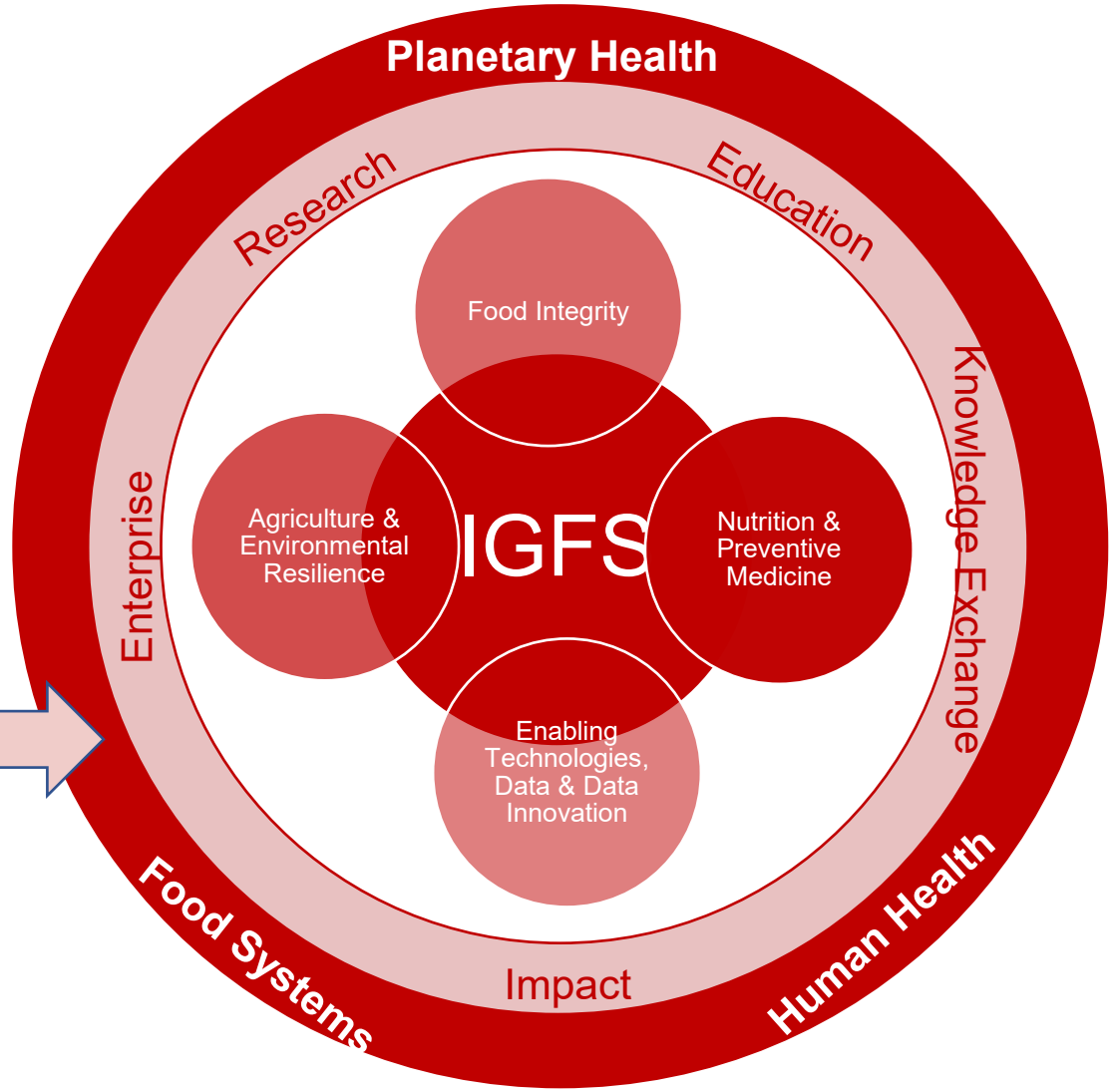


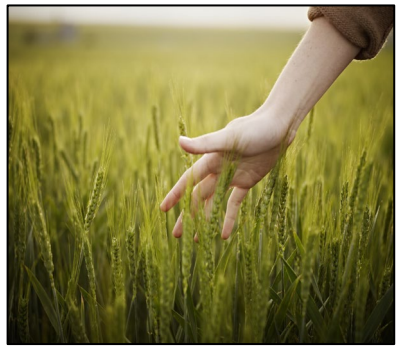

Disciplinary Excellence




Interdisciplinary Excellence

# Vision aligned to Strategy 2030: World-leading Impact

**REF 2021:** 83% 4* and 17% 3*



[The Food Fortress- from a Crisis to the Formation of an Innovative Food Quality Assurance Scheme]

[The Elliott Review into the Integrity and Assurance of food supply networks: Transforming the UK Strategy on combatting Food Fraud]

[Uncovering the Causes of a Major Crisis in the World Food Programme]

[Tackling fraud in the herb and spice sector using a fingerprinting approach]

[Porcine Circovirus 2 Vaccine – An essential component of a sustainable global pig industry]

[Developing Improved Housing Standards for Commercial Poultry]

**Strategy:** Enhance the impact of our research

**Enablers:** Enhanced PDR process; mentorship of staff; promotion team science; Potential impact monitoring on a continual process; BRCD-GII, iReach & AMIC; Excellent R & E team and opportunities; Strategic recruitment.

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# Enablers: Spin-out companies

AMPLY DISCOVERY

aramune

BIA Analytical
Future of Food Fraud Detection

FJORDSTRONG

RAPIDMYCO TECHNOLOGIES

| Blue Skies (TRL 0) | Fundamental Research (TRL 1, 2) | Applied Research (TRL 2, 3) | Development (TRL 4, 5, 6) | Demonstration (TRL 7) | => Market (TRL8, 9) |
|---|---|---|---|---|---|
| Curiosity-driven No known application | Knowledge and understanding – toward a purpose | Addressing specific challenges | Problem solving to ensure application | How it works in the real environment | |

**Government Policy**

**Social Engagement**

# Enablers: Partnerships and team science

Commercial and research partnerships with local and international companies are an equally important part of our outreach and external engagement

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# Reflections mapped to current research

- Soil
- Feed – safety, mycotoxins, new feeds
- Environmental – methane, phosphorus
- Productivity & Efficiency
- Animal Health & Welfare
- Data, standards and measuring sustainability

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# Horizon

- Sustainable food systems against backdrop climate change
- Deep decarbonization and enhanced sequestration
- Circularity in farming systems
- Animal health –
  - antimicrobial resistance
  - avian influenza
- One Health – animals, environment and human

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INSTITUTE FOR GLOBAL FOOD SECURITY

1ST IN THE UK AGRICULTURE, FOOD AND VETERINARY SCIENCES *(REF2021)

1ST IN THE UK AGRICULTURE *(Complete University Guide 2023)

4TH IN THE UK FOOD SCIENCE *(Complete University Guide 2023)

9TH IN THE UK BIOLOGICAL SCIENCES *(Complete University Guide 2023)

Royal Society of Biology Advanced Accredited Degree

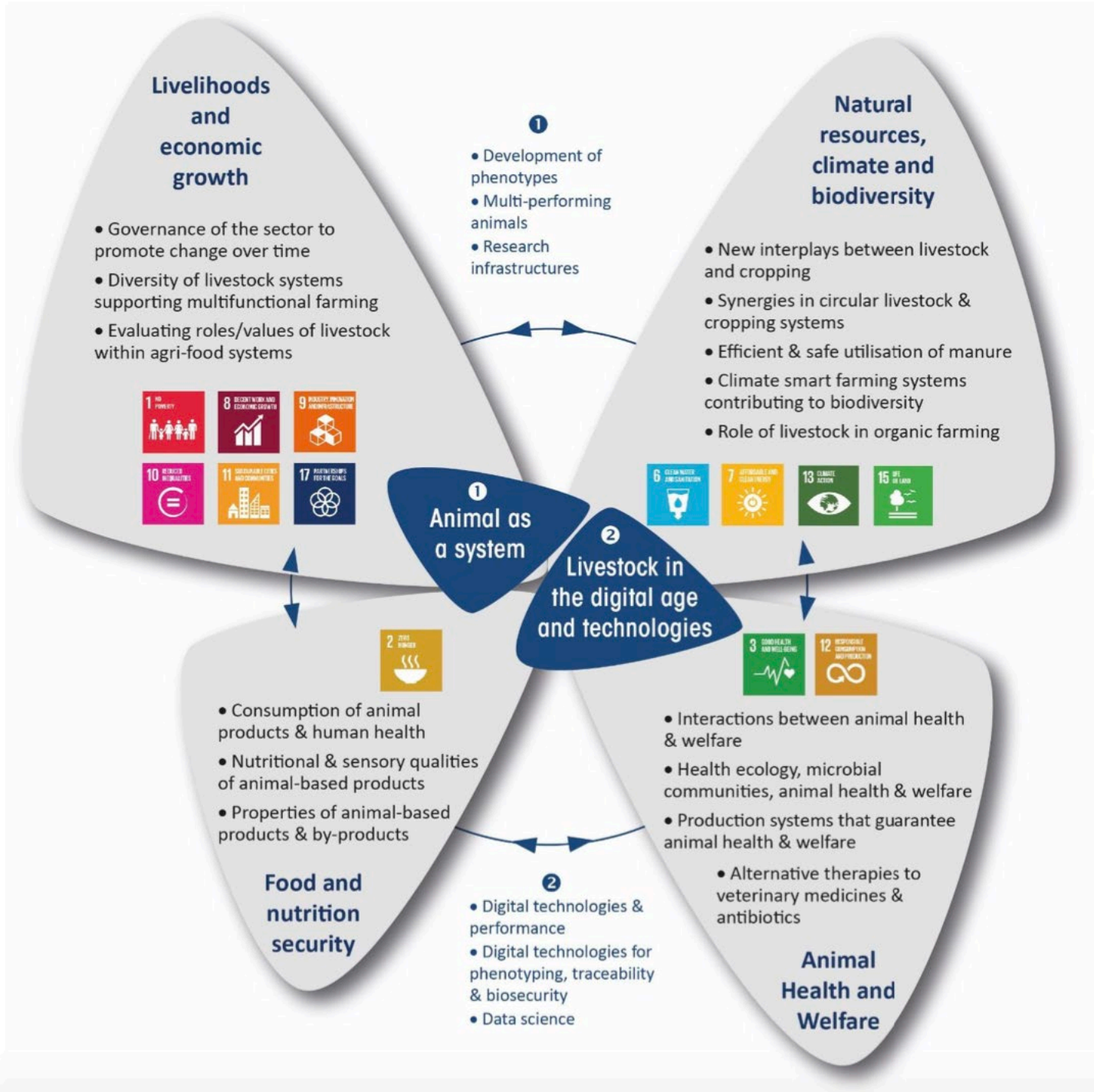
Royal Society of Biology Accredited Degree

Institute of Food Science + Technology ifst

RICS Accredited Course

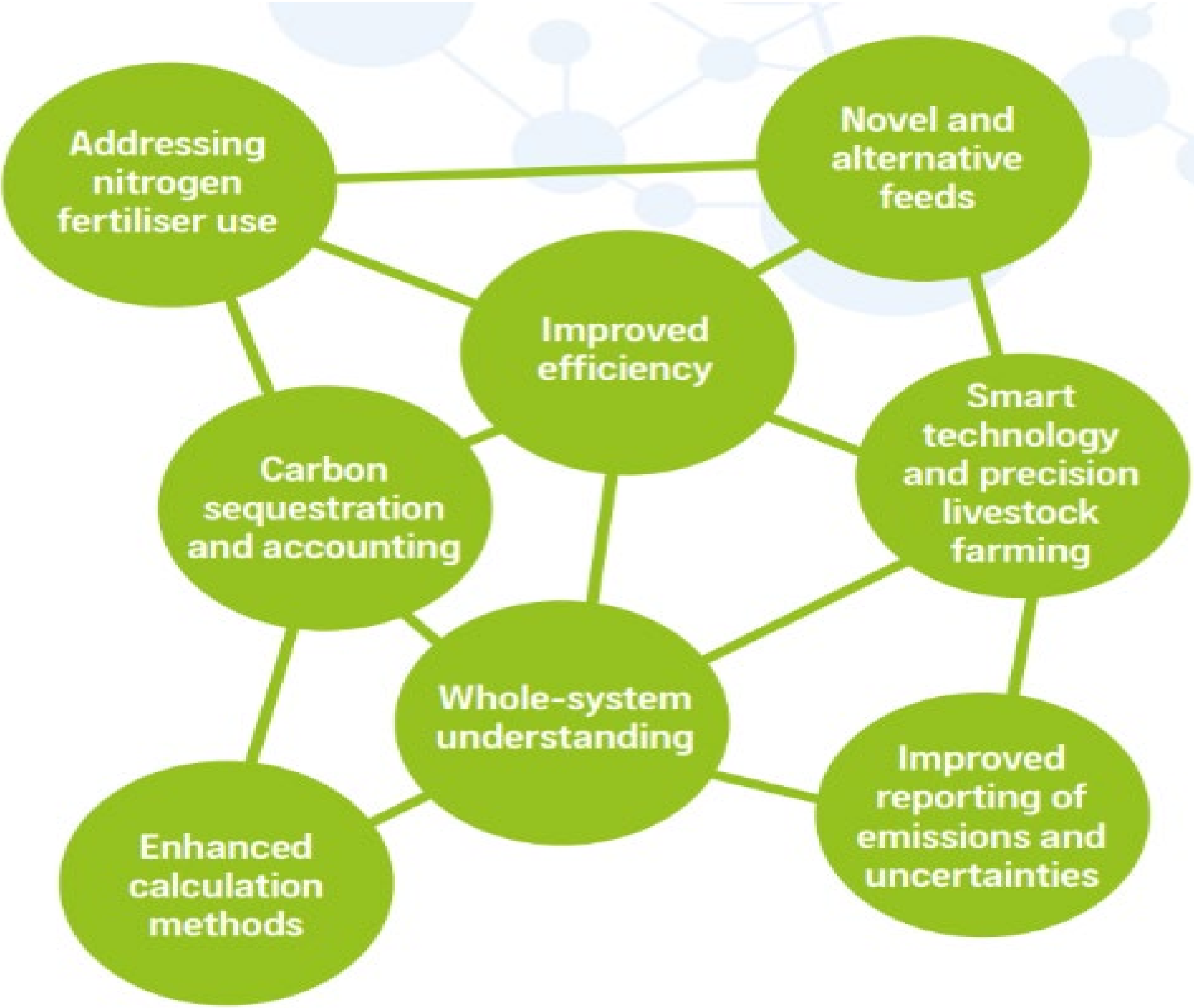
Athena Swan Gold Award GENDER CHARTER

Responsibility to show leadership in developing the disciplines and sector


Livelihoods and economic growth
• Governance of the sector to promote change over time
• Diversity of livestock systems supporting multifunctional farming
• Evaluating roles/values of livestock within agri-food systems
1
• Development of phenotypes
• Multi-performing animals
• Research infrastructures
Natural resources, climate and biodiversity
• New interplays between livestock and cropping
• Synergies in circular livestock & cropping systems
• Efficient & safe utilisation of manure
• Climate smart farming systems contributing to biodiversity
• Role of livestock in organic farming
1 Animal as a system
2 Livestock in the digital age and technologies
• Consumption of animal products & human health
• Nutritional & sensory qualities of animal-based products
• Properties of animal-based products & by-products
Food and nutrition security
2
• Digital technologies & performance
• Digital technologies for phenotyping, traceability & biosecurity
• Data science
• Interactions between animal health & welfare
• Health ecology, microbial communities, animal health & welfare
• Production systems that guarantee animal health & welfare
• Alternative therapies to veterinary medicines & antibiotics
Animal Health and Welfare

# Delivery of Carbon Neutral

(Centre for Innovation and Excellence in Livestock, 2022)



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AGRI-FOOD
& BIOSCIENCES
INSTITUTE

Leading | Protecting | Enhancing

# *Research needs and what is AFBI doing aligned with Farming systems?*


Elizabeth Magowan

afbini.gov.uk

# Overview of farmers research needs:

- Climate Change – what interventions for mitigation and adaptation recognizing one size doesn't fit all
- What is the impact on animal numbers?
- What can/should land be used for in NI?
- What does the pathway to 2050 look like?
- The role of farming/land use and management as an intervention to support environmental health
- Place based research needed
- How do we ensure economic sustainability
- Long term, Systems based research needed

# AFBI's focus:

- *Decarbonise and reduce the overall environmental (C, N and P) impact of livestock farming whilst optimising productivity, animal health and welfare.*
- *Harness the power of data – models and decision support tools*
- *Opportunities for new land management and alternative food production systems.*
- *Explore and harness opportunities for industry aligned with climate change adaptation while managing the risks from climate change*

# Decarbonising Livestock Production

Feed/Forage

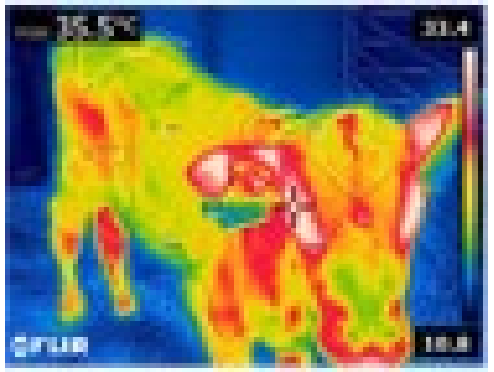
- Methane inhibitors – seaweed extracts, willows, 3NOP, ‘face masks’….
- Dietary interventions to reduce N and P
- Swards which reduce emissions and sequester carbon – multispecies, agro-forestry
- Former foods/by products to replace ‘Human edible food’

Animal

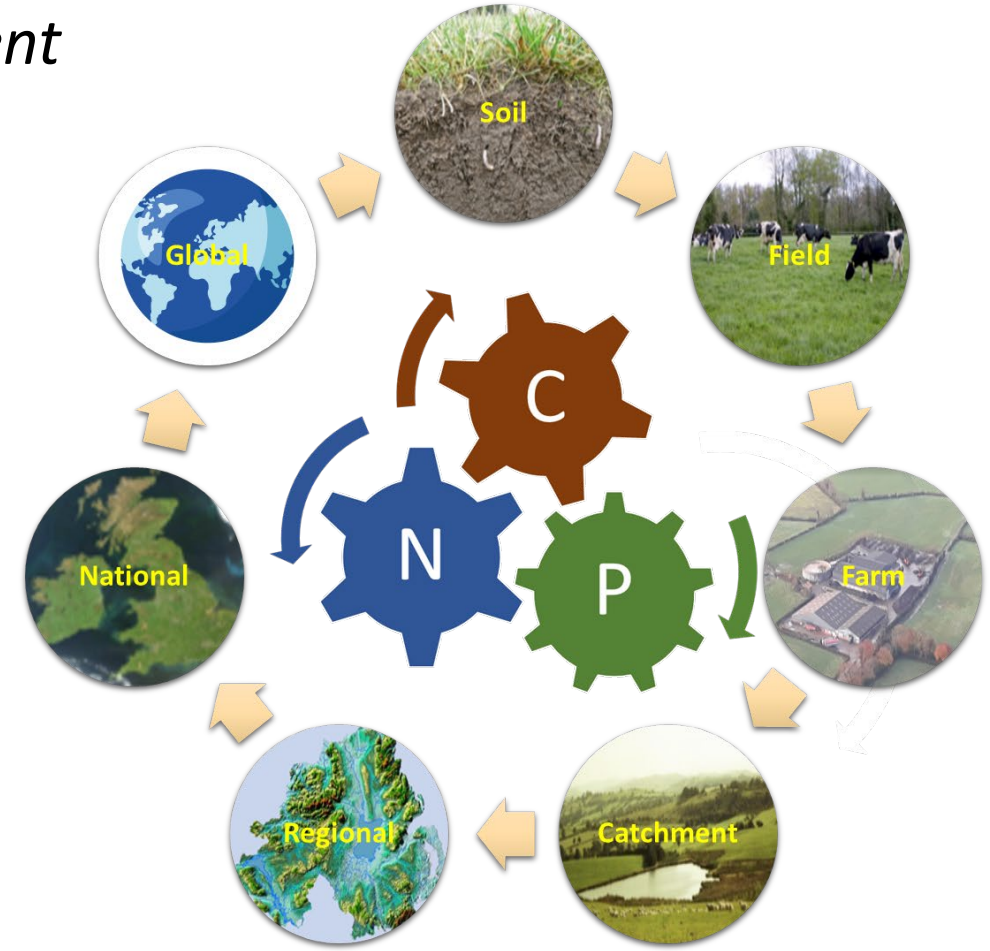
- Optimising production efficiency– genetics and genomics in our animals and plants, management strategies
- Reducing waste – early ill health detection,
- Interactions with biodiversity for lowland and especially upland farming

Slurry

- Slurry interventions – additives, physical interventions

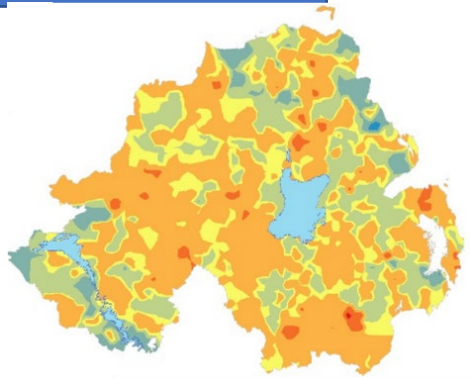


***Optimising*** *the integrated management of* ***nitrogen (N), phosphorus (P) & carbon (C)*** *in agricultural landscape for the delivery of* ***multiple ecosystem services*** *from field to national scale*




# SOIL NUTRIENT HEALTH SCHEME

Circular Bioeconomy



# Sustainable Food Systems – Multidisciplinary approach







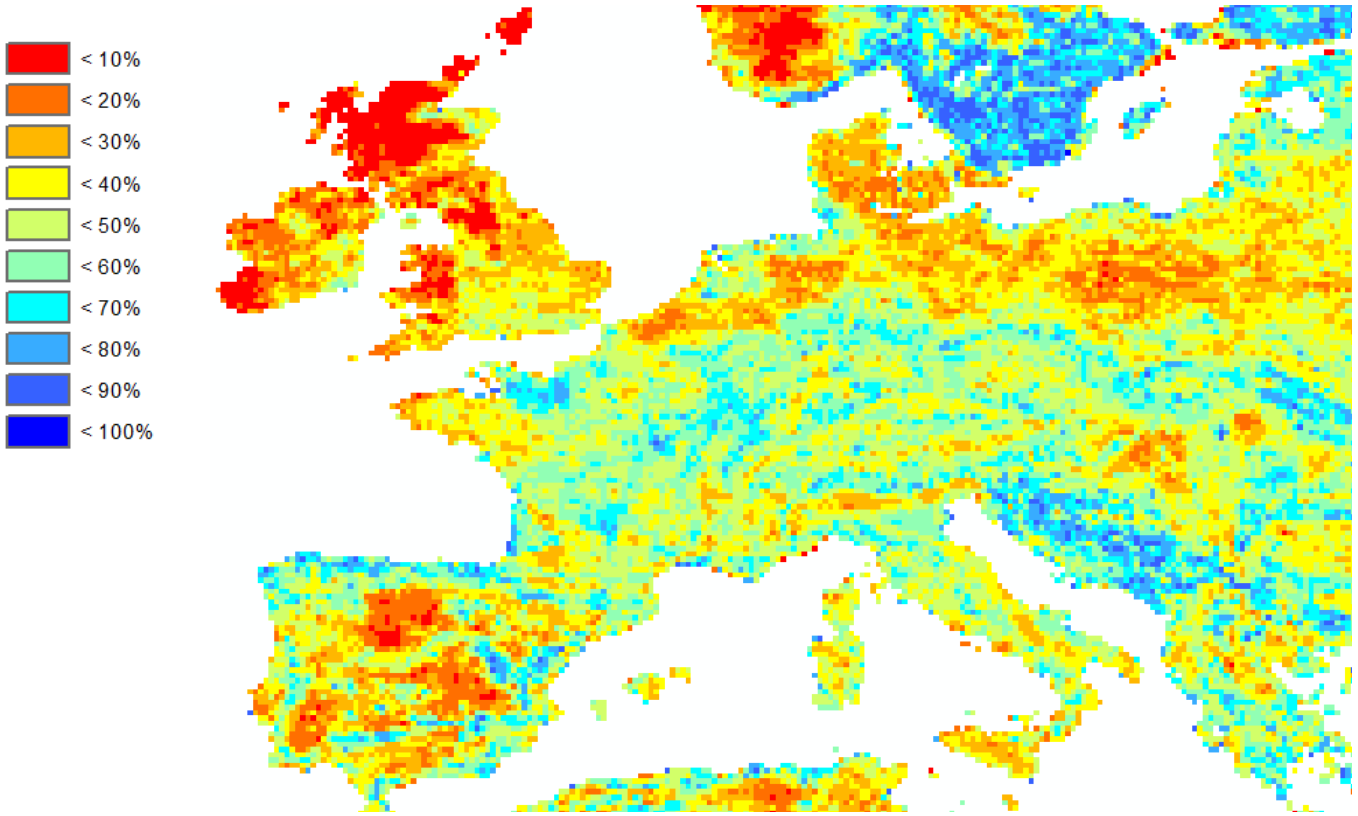


- Nutrition
- Genetics
- Modelling
- Management
- Agronomy

- Environment
- Economics
- Efficiency/ Productivity
- Health & Welfare
- Product quality

- Publications
- Policy/strategy
- Innovation
- Action plans
- Inventories

# Opportunity of conversion to arable:




Čengić *et al*. (2023). Similar results from Ramankutty *et al*. (2002), Zabel *et al*. (2014), Schneider *et al*. (2022) and others.

*Ireland won't feed the world, nor will it solve the climate crisis but needs to contribute to both while reducing local pressures of N and P.*

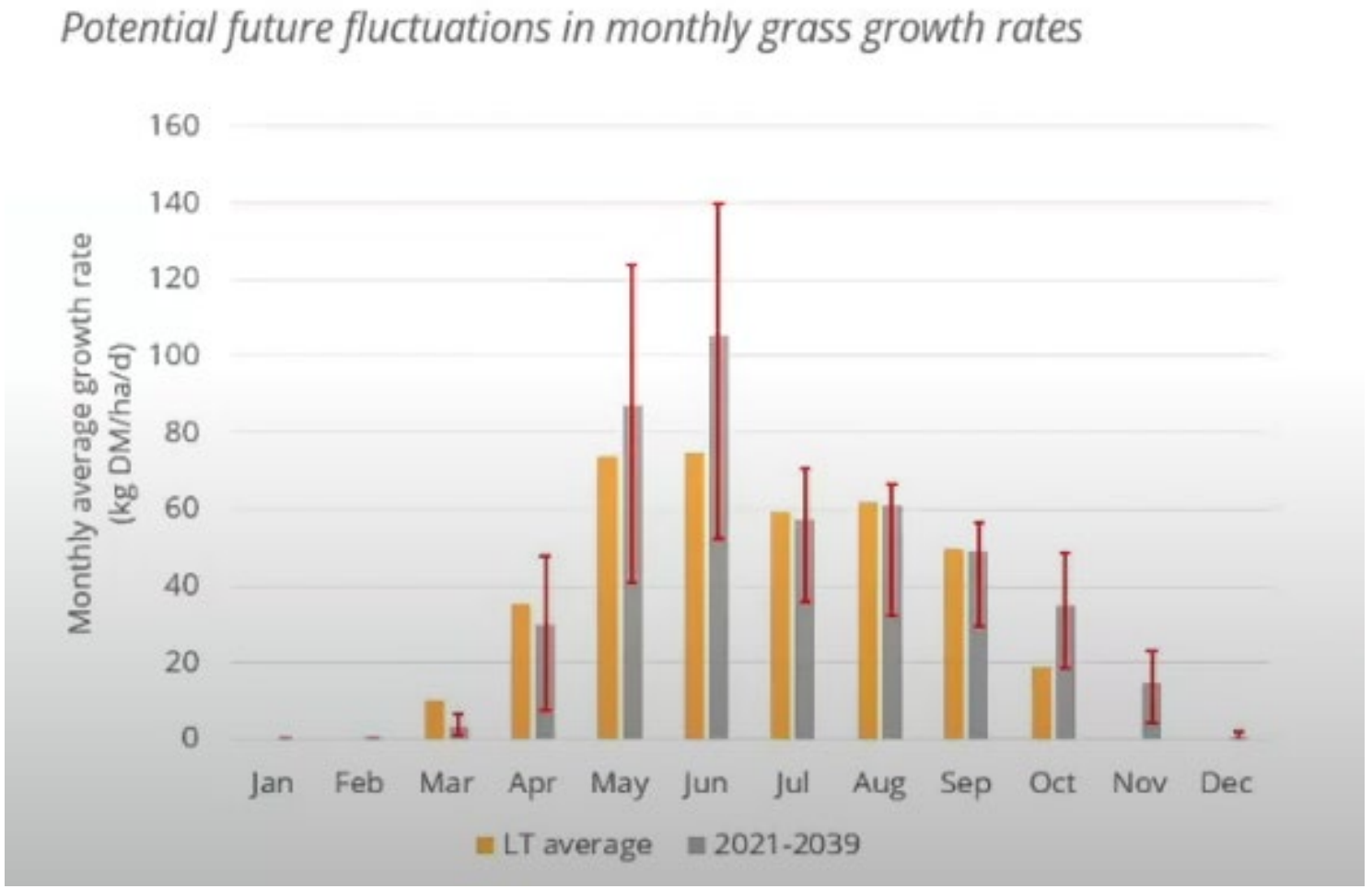
*R&I needs to focus on innovations and behaviors which maximize value from the land*

*Opportunity to collaborate with energy and transport sectors*

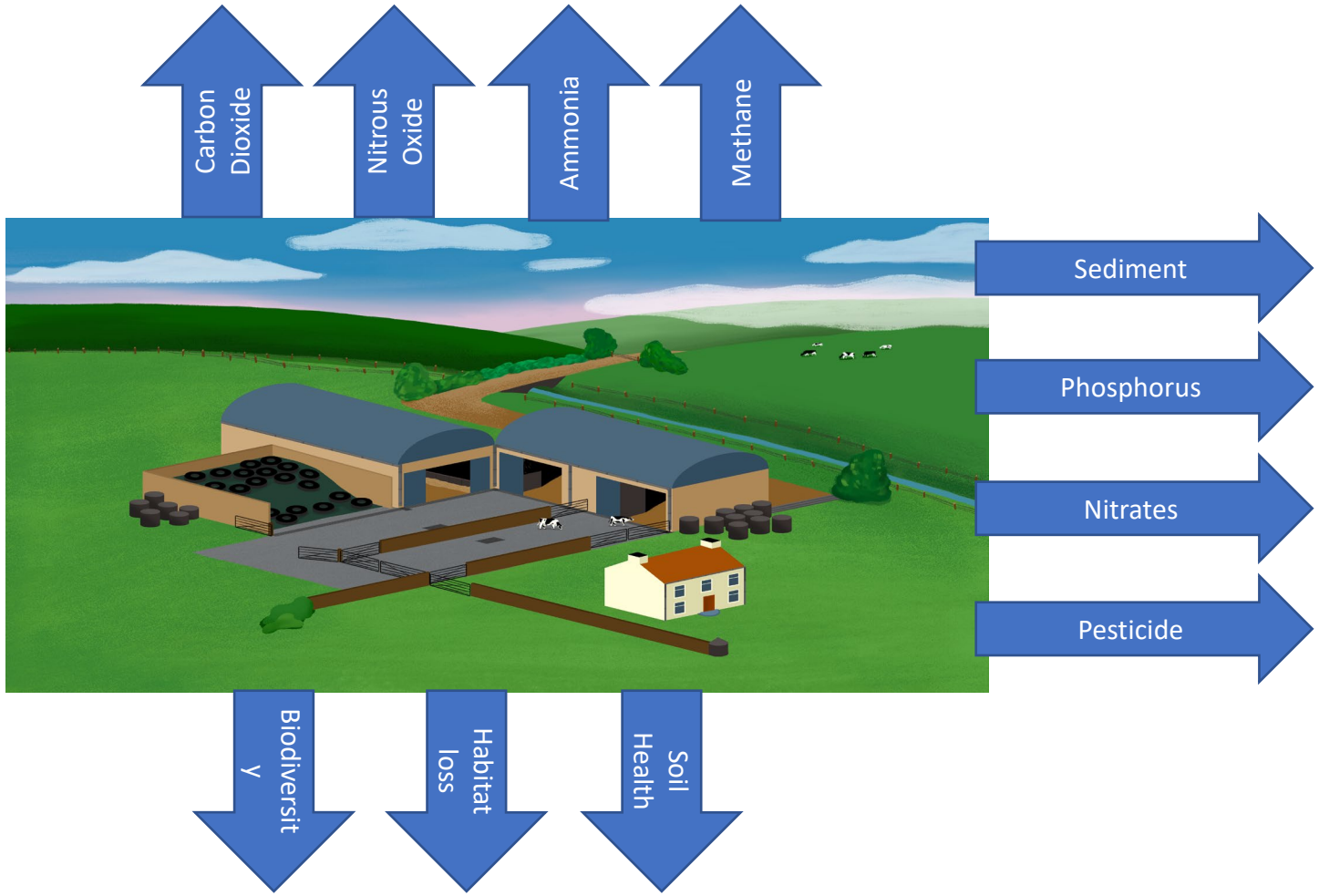
# And we need to adapt:

*Focus is very heavily weighted to 'mitigation'*

*While many mitigations support adaptation, focus needs to re balance to increasingly include adaption*



# Modelling a ‘safe operating space’ for Land Use?




*Long term, systems based research platforms linked to integrated modelling platforms required*

# Pathways to impact, at pace, required to farm, government policy, inventories

# DAERA research and innovation priorities

## With a focus on dairy, beef and sheep sectors

**Patrick Murphy, DAERA**

Department of
Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk

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# DAERA Science Strategy Vision and R&D Strategy

- Vision of our high-level framework is that DAERA's science will be:
  - innovative, collaborative and transformative;
  - it will support a healthy and sustainable environment, rural community and economy;
  - and help deliver the Programme for Government outcomes; and contribute to the DAERA purpose, sustainability at the heart of a living, working, active landscape valued by everyone.

- Mission of our R&D Strategy is to deliver:
  - The Best R&D
  - The Best Value
  - And get the Best Use from it

# Role of science and innovation

- Draft Green Growth Strategy (NI Exec.) is seeking to adopt a holistic approach to tackle the climate emergency and biodiversity crisis in a balanced climate action with the environment and the economy in a way that benefits everyone.

- Science and innovation (alongside education and knowledge exchange) are important policy instruments which DAERA is placing big emphasis on to deliver the goals in:
  - the future Agricultural Policy Framework;
  - Environment Strategy for Northern Ireland;
  - UK Biological Security Strategy.

# DAERA agricultural policy

Target outcomes:

- increased productivity,
- environmental sustainability,
- improved resilience and
- an effective functioning supply chain

Research needs:

- Innovative, collaborative and transformative (radical change) research to achieve these target outcomes.

# DAERA agricultural policy framework

- Science and innovation are key components of the agricultural policy framework e.g.
  - Ruminant Genetics Programme*
  - Livestock Dietary Emissions Challenge Fund
  - Carbon benchmarking programme*
  - Soil Nutrient Health Scheme*
  - Knowledge and Innovation programme
- And science will play important role in the monitoring and evaluation framework for agricultural policy – inform impact assessment and agile policy development.

*These programmes are also creating major data/information platforms for future R&I and will feed into the NI GHG and ammonia inventories (increasing their precision and highlighting opportunities for new research and innovation to deliver better outcomes).

# DAERA's Research Portfolio

- Major additional investments in innovative, collaborative and transformative science to meet our evidence and innovation needs.
  - SFFI/UKRI/DAERA Co-centres: (1) Climate (2) Resilient and sustainable food systems
  - UKRI/Defra/Scot Gov/Welsh Gov/DAERA: Transforming Land Use for Net Zero.
  - Collaborations with DAFM Competitive Research Call, US-Ireland R+D programme and UKRI-BBSRC (endemic livestock diseases).

- These programmes build on and complement our core DAERA-directed AFBI Programme and DAERA Postgraduate Scheme.





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# Science for policies – some areas to highlight

# Sustainable farming systems dealing with the climate emergency & biodiversity crisis

- Climate Change Act (NI) 2022 Act sets demanding legal targets to direct the transition to a climate resilient, biodiversity rich, environmentally sustainable and net zero climate economy.
- DAERA recently led, on behalf of NI Executive, a public consultation on proposed 2030 and 2040 emissions targets and proposed carbon budgets for 2023-2027, 2028-2032 and 2033-2037.
- CCC advice - agriculture emissions need to fall 21% from 2020 to 2030
- DAERA considerations on CCC Recommended Agriculture Sector Pathway
  - New innovations in nutrition for livestock have the potential to play a key role to reduce GHG emissions and (P and N losses).
  - Industry-led Ruminant Genetics Programme - super platform to implement findings of research and for new research.
  - Reducing N20 emissions from inorganic and livestock manures is really important- planning new applied research and KT initiatives, using information gained from the SNHS to encourage greater uptake of mitigation measures relating to greater efficiency in nutrient management and use and the type and level of inorganic fertiliser applied.

# Sustainable farming systems dealing with the climate emergency & biodiversity crisis

- **CCC advice- Land use, Land Use Change and Forestry**
  - emissions from LULUCF will need to fall 22% from 2020 to 2030.
  - increased afforestation will play an important role along with very significant increases in the rate of peatland restoration, hedgerow creation and management and agroforestry.
  - engineered removals based on carbon capture and storage (CCS) from both solid biomass and anaerobic digestion of grass used to complement livestock slurries.
    - Development of technical solutions to sustainably manage livestock slurries key area – GHG emissions but also P and N losses and NH3 emissions (water quality and biodiversity).

- **All of this points to greater scientific evidence and new innovations to help to inform new direction for agriculture, with a firm focus on just transition**

- Resilience in systems to climate change is also key consideration in our research and innovation needs (as well as behavioural sciences).

# Sustainable farming systems

Research interests (not covered previously)

- Modelling tools to evaluate economic and environmental impacts of policy changes in the sectors;
- Collaboration and cooperation measures to improve functioning of agri-food supply chain
- Impact of sustainability standards/net zero targets on agri-food supply chain to direct behavioural change.
- Research to understand NI producer/grower attitudes, behaviours, and motivations in relation to supply chain collaboration

# One Health

- One Health:
  - The One Health concept recognises that the health of people is closely connected to the health of animals and our shared environment.
  - An understanding of the changing interactions between people, animals, plants and our environment is becoming increasingly important in the context of growing and expanding world populations; climate change and land use; and the spread of endemic and zoonotic diseases
- Not a new concept, but approach increasingly now being taken-up in policy initiatives.
- Complements the goals of agricultural policy – better efficiency, resilience, environmental stewardship and clear supply chain benefits.
- Research and innovation will have an important role to play in building connected networks – interdisciplinary and across sector in approach.

# One Health

## Some of our current research and innovation interests

- Improving detection and control of endemic diseases across humans, animals and environment;
- Animal disease horizon scanning – emerging risks;
- Costs, benefits and risk profile of animal and plant disease prevention and control strategies;
- New techniques/approaches to disease prevention and control.

## Examples of our collaborative funding approach

- BBSRC Endemic Livestock Diseases Initiative (co-funded by DAERA)
- Aims to reduce the level and impact of endemic disease on the UK livestock sector, to improve productivity and the health and welfare of animals.
- Phase two opportunity developed in consultation with UK agricultural businesses and policymakers and is in line with the phase one opportunity ‘develop solutions for endemic livestock disease’.
- STAMPNI measuring antimicrobial usage as veterinary medicine and informing future approaches.
- Improved collaboration with DoH on Anti Microbial Resistance issues.

# DAERA's Evidence Plans

- Against a fast-moving policy background (presentation just covers a couple of areas), DAERA is undertaking a needs gathering exercise across its policy areas to refresh our research priorities.

- Evidence plans will be published in the new year

- Plans will identify our priorities under broad headings and will align with GO-Science guidance.

- DAERA will continue to plan and commission research locally but collaborate with funders and benefit from collaborative research across the UK and Ireland and internationally.



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# Summary of Research & Innovation Needs

Sinclair Mayne



AgriSearch NI
Driving Excellence & Innovation

# The Right Animal

The right genotype

- Historically strong focus on production traits

But can also harness the power of genetics for other traits:

Health – Fertility, disease resistance

Age at calving

Age at slaughter

Feed efficiency

Methane – 30-40 % variation between animals

25% reduction in methane per kg of carcase weight if include methane and age at slaughter in breeding indices (Berry, 2023)

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Driving Excellence & Innovation

# Research to Drive Genetic Gain

- Major scope for genetic gain in beef and sheep (and dairy) - low cost, cumulative and easy to implement on farm

- Build on existing databases – Bovis and Ovis

**Research Needs:**

- New breeding indices with wider range of traits – health, carcass quality, feed efficiency, methane emissions ….
- Genotyping of national herd to establish current genetic base

**Key Challenge – Geneticists to drive change and lead progress**

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Driving Excellence & Innovation

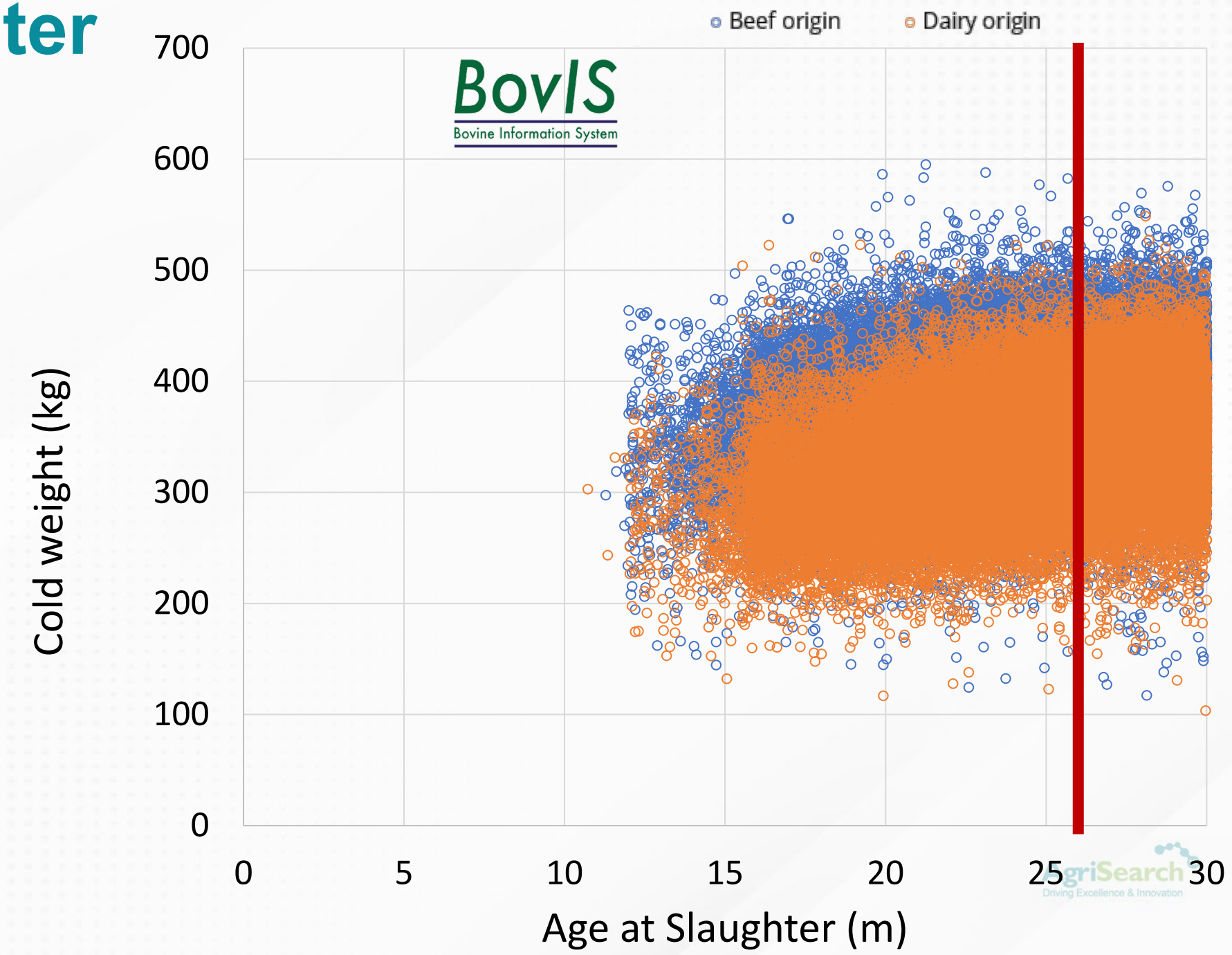
# Age at Slaughter Steers - 2022

- Data for 113,657 steers slaughtered in 2022

**33.4% older than 26 months**

**Data taken from the Agri Food and Biosciences Institute's Bovine Information System, BovIS*

*(with thanks to Francis Titterington and Frances Lively)*




afbi AGRI-FOOD & BIOSCIENCES INSTITUTE

# The Optimal Diet – Forage

High quality forage starts with the soil

Soil nutrients – ph, N, P, K and S  (Soil Nutrient Health Scheme)

**Research Need**: Improved Nutrient Management Planning Tools to maximise value of soil analysis, role of organic manures and potential of precision fertiliser application.

Sward type – Optimising productivity with lower N fertiliser input

**Research Need**: Grass species and varieties for lower N conditions, compatibility with legumes, N fixing grasses

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# The Optimal Diet – Forage

Major opportunity to lock carbon in soils (as shown in ARC Zero Project)

**Research Needs:**

New on farm methods for Soil C assessment

Improved understanding of factors influencing C sequestration.

Impacts of climate change on ability to grow and utilise grass

**Research Need**: Incorporate weather data in prediction models to understand impacts of climate change on grassland farming

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# The Optimal Diet – Supplements

## Precision Nutrition

**Research Needs**: Development of precision feed rationing systems

Role of home grown crops

## - Specific Feed Additives

Methane inhibitors - 30% reduction in methane emissions with TMR

**Research Needs**: Role in grazing systems

Additivity?

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# Appropriate Management for the Farm

- The world needs more food, from less land, with fewer inputs, fewer farmers and with an increasingly variable climate.

- Balancing production with positive environmental impacts whilst remaining profitable is a major challenge (Nature Positive Farming, Regenerative Farming, Net Zero Resilient Food Systems ….).

- Need to harness all of the latest technologies in science, alongside older technologies, and apply these to real farming systems (multi-year systems research).

- Need scientists with the relevant skills, working together and alongside farmers, to bring forward new technologies and investigate how these can be applied in practical farming systems.

- Investment in science (and scientists) today for development of farming systems from 2030 onwards.

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# Launch of AgriSearch Research & Innovation Needs Report

Jason Rankin
General Manager, AgriSearch

AgriSearch NI
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# Evolution of AgriSearch

- AgriSearch has continually evolved since it was founded in 1997
- Originally a “back seat” co-funder of research
- 2010 started to lead Research Projects (including on farm research)
- 2017 Establishment of GrassCheck on-farm programme
- 2021 Establishment of Beacon Farm Network & EIP Projects
- 2023 PhD Scholarships & ZeroNsile project
- However, our resources are limited….
- Role in articulating the research & innovation needs of farmers

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# Publication of our first Research & Innovation Needs Summary Paper

- Over the past year we have engaged with our Beacon and GrassCheck farmers as well as our Trustees and Advisory Committees
- Using the feedback from workshops and meetings we have collated research and innovation needs and produced this first paper which is contained within our annual report.
- It is planned that this will become a regular feature of our annual report
- The outputs from today’s conference will inform next year's paper

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# Acknowledgments & Closing Remarks

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