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The Soils TAG* 2025 Update

Looking back & looking ahead

The role of the ***Soil Health and Carbon Dynamics Topic Advisory Group (Soils TAG)** is to collate evidence reviews and lead workshops to define healthy soil systems and assess new and novel indicators for delivering multiple benefits; produce a gap analysis of soil monitoring tools/technologies used in the UK and beyond in terms of reliability of measurement, monitoring soil systems states under different management practices and climate scenarios.



UK Research
and Innovation



Department
for Environment
Food & Rural Affairs



Department for
Energy Security
& Net Zero



Llywodraeth Cymru
Welsh Government



Scottish Government
Riaghaltas na h-Alba



DAERA
Department of Agriculture,
Environment and Rural Affairs
An Roinn Talmhaíochta,
Comhshaoil agus Gnóthaí
Tuaithe
Department o' Fairmin,
Environment an' Kintra
Matters
www.daera-ni.gov.uk

Contents

The following is an interactive (clickable) compendium of all the outputs produced by the Soils TAG since inception.

It also includes an outline of the suggested work plan for 2026.

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Workshops

click on an image to go straight to its output



National Monitoring across the
Four Nations (2024)



Soils Data & the Land Use Framework
for England (March)



On-farm Soil Health Measuring &
Assessing Initiatives
(June)



Soil Carbon Baseline (July)



Soils and Flooding (November)

Thought Leadership Blogs

click on an image to go straight to its output



10 Recurring Soil Policy
Recommendations from Research



Soil and the Land Use Framework
for England



Soil as a Habitat in its Own
Right

Talking Heads

click on an image to go straight to its output



Soil Carbon
Professor Pete Smith



UK Soil Policy
Ellen Fay



Enhanced Rock Weathering
Professor David Beerling



Soil Biodiversity
Professor Richard Bardgett



Soil Carbon Mapping
Dr Matt Aitkenhead



Links Between Soil Biology and Soil Carbon
Joel Williams



Biochar
Professor Colin Snape & Dr Tom Bott



Bringing Soil to the Public
Bridget Elworthy and Henrietta Cortauld



The Science of Soil Carbon Sequestration
Professor Pete Smith and Dr Helaina Black

Informal Research

click on an image to go straight to its output

Appendix I: Initiatives Included in the Study

'Government'
(incentives, regulations)

Toolkits
(soil health/farm sustainability)

Certification
(quality, farm sustainability, organic/regen)

Soil Carbon Measurements & GHG Calculators
(soil carbon, farm GHG)

Framework
(holistic farm sustainability metrics)

DEFRA (2024) Sustainable Farming Incentive (SFI)
DEFRA (2018) Farming Rules for Water
 Welsh Government (2023) Sustainable Farming Scheme
Welsh Government (2021) The Water Resources (Control of Agricultural Pollution) (Wales) Regulation
 Scottish Government (2024) Preparing for Sustainable Farming
Scottish Government (2021) The Water Environment Regulation (Scotland)
 DAERA (2023) Northern Ireland Soil Nutrient Health Scheme
DAERA (2019) The Water Framework Directive
 Natural England, Catchment Sensitive Farming

AHDB Nutrient Management Guide (18/20)
AHDB Soil Health Scorecard
 UK Center for Ecology and Hydrology
Soil Fundamentals (SOF)
 Vidacyle Soilmentor
 Soil Association Exchange
 UN Food and Agriculture Organisation (FAO)
Tool for Agroecology Performance Evaluation (TAPE)
 Farm Carbon Toolkit

Red Tractor Greener Farm Commitment (withdrawn)
 LEAF Marque
 Soil Association Certification
 Organic Farmers & Growers
 SAI Platform Farm Sustainability Assessment (FSA)
 Regenagri
 Pasture for Life
 BDA Certification/Demeter
Certified Regenerative by AGW

Farm Carbon Toolkit
 Cool Farm Tool
 Agrecalc
 Trinity AgTech (Sandy)
 Downforce Technologies
 NRM's (Cawood) CarbonCheck
 Agricarbon

Global Farm Metrics

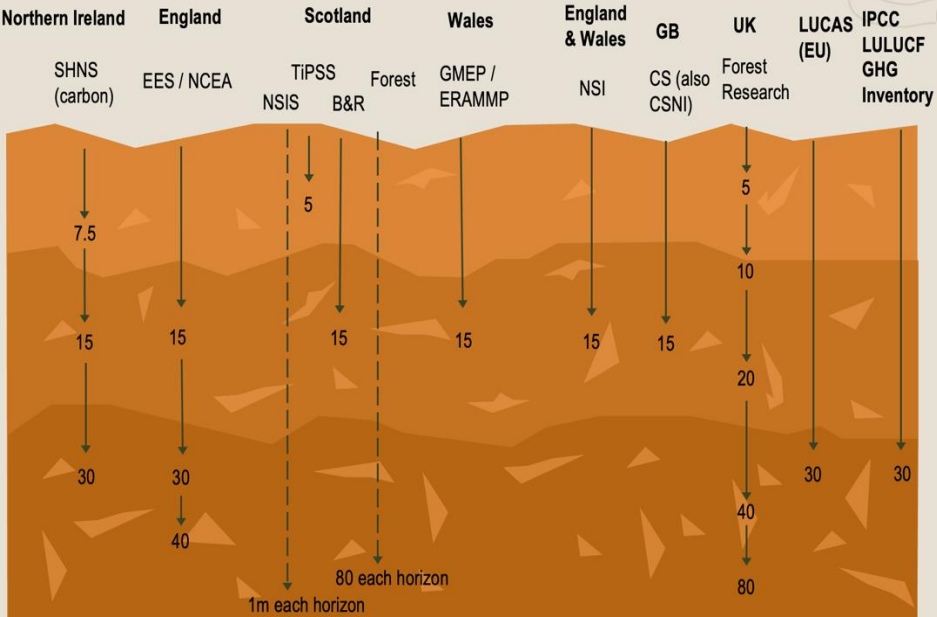
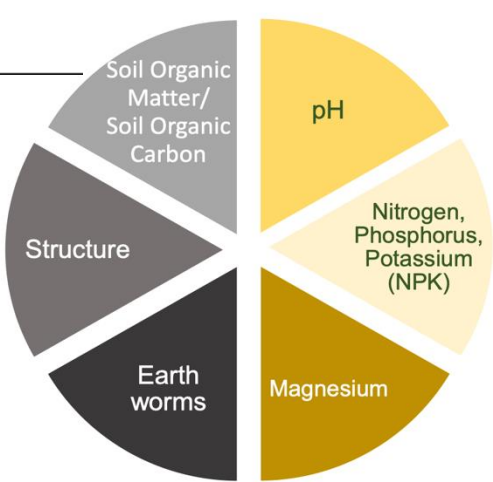
A Review of Soil Health Measurement and Assessment Initiatives in the UK

April 2025

Developed by Anicée Defrance and Ellen Fay of the Sustainable Soils Alliance for presentation by the LUNZ Hub Topic Advisory Group on Soil Health and Carbon Dynamics



Soil Health Measurement and Assessment Initiatives in the UK



Visualisation of Soil Monitoring across the UK

	2	3
Ireland	Northern Ireland	Northern Ireland
re, Environment and Affairs	Department Agriculture, Environment and Rural Affairs	Department Agriculture, Environment and F
sciences Institute	Agri-Food and Biosciences Institute	
heme - Core Baseline	Soil Nutrient Health Scheme - Research Work Programme on Carbon	Countryside Survey NI
ysis Programme		
IS	SNHS	CSNI
AELB, DAERA	Stephen Archer AELB, DAERA Tel:02890378324, email:stephen.archer@daera-ni.gov.uk;	Suzanne Higgins, Agri Food and Biosciences Ins
378324,		Newforge Lane, Belfast BT9 5PX. Email: Suzanne.Hi
r@daera-ni.gov.uk	Alex Higgins and JR Rao, Agri-Food and Biosciences Institute (jr.rao@afbini.gov.uk;	
od and Biosciences	Research work package within the SNHS - focussing on soil carbon and carbon in above ground biomass.	National monitoring and potential to use as counter factual for
gricultural fields by 2026 and		
re assessment of soil nutrient		
above ground biomass and to		
and potential impact on water		
ty		
agement strategy for NI.	The Sustainable Agri-Land management strategy for NI.	Climate regulation through carbon sequestration and storage (Carbon k fertilisation and other management practices. Includes peat Clean water, Food quality and Habitat provision (Acidification due to atmos use; Eutrophication due to mismatched crop needs and nutrient supply; chemicals and atmospheric deposition) Water flow regulation (Rapid runoff to water courses due to compaction fr Habitat provision (Biodiversity loss including change of both soil biota and support of crops due to poor soil structure) Nutrient provision (mismatched crop and soil nutrient

1,275 Data Point of Analysis of Four Nations Soil Monitoring

 *Collect Reports*



 *Review & Select*



 *Summarise Key Findings*



 *Organise in Catalogue*



 *Facilitate Access for
Stakeholders*






Centralised Soil Evidence Review – click here to view

A comprehensive tool compiling 51 evidence resources to inform national policies on soil carbon sequestration and soil health, aligning with the UK's goal of achieving net zero emissions.

Purpose:

- **Comprehensive Evidence Collection:** Soil health and soil Carbon.
- **Achieving Net Zero:** Supports UK ambitions for net zero emissions.
- **Inform Policy:** Guides UK policies on soil Carbon and soil health.

Highlights:

-  **Key Findings:** Soil Carbon sequestration, soil health.
-  **Practical Recommendations:** Actionable and evidence-based.
-  **Supported by Evidence:** Reliable and current data.

[**CLICK HERE TO VIEW AND SEARCH THE RESOURCE**](#)

Government Soil Initiatives Map

The aim is to support understanding across the nations and to understand where soil policy is heading. To spot synergies, learning opportunities, emerging themes and to provide accessible and a practical resources that can assist stakeholders in policy alignment and decision making.

1. Established policy initiatives:

This will consist of a concise, factual overview of what exists now, in the form of a toolkit that can be filtered by nation, type, monitoring, incentive, regulatory or policy framework, etc. NI scheme, regulations, incentives

2. New and developing research & pilots:

This will consist of what is being explored, commissioned, to support or trialled, in the form of an excel spreadsheet – with JNCC 4 nations soil policy group to establish how public

Nation	Policy/Programme Name	Type	Description	Lead Body	Monitoring	Incentive	Regulatory Framework	Policy Framework	New Initiatives	Year	Links/References	Notes
England	Sustainable Farming Incentive (SFI)(Paused)	Incentive Scheme	Pays farmers to adopt soil-friendly practices such as cover cropping and reduced tillage.	Defra	Yes	Yes	No	Environmental Improvement Plan (EIP)	No	2022	https://www.gov.uk/government/collections/sustainable-farming-incentive-guidance	Main soil-focused component under ELM.
Scotland	Agri-Environment Climate Scheme (AECS)	Incentive Scheme	Supports land managers to undertake actions that protect and improve soils.	Scottish Government	No	Yes	No	Scottish Soil Framework	No	2015	https://www.ruralpayments.org/topics/agri-schemes/agri-environment-climate-scheme/	Key scheme for sustainable soil practices.
Wales	Environment and Rural Affairs Monitoring & Modelling Programme (ERAMMP)	Monitoring Program	Ongoing monitoring program evaluating agri-environment schemes and the wider Welsh environment, including soil, biodiversity, and water.	Welsh Government	Yes	No	No	Environment (Wales) Act 2016	No	2017	https://erammp.wales/en	Replaced GMP (2013–2016); includes National Field Survey; key data source for sustainable land use.
Northern Ireland	Soil Nutrient Health Scheme	Monitoring Program	Provides free soil sampling and analysis to help farmers improve nutrient management.	DAERA	Yes	No	No	Green Growth Strategy	Yes	2022	https://www.daeia-ni.gov.uk/news/soil-nutrient-health-scheme-cafre-launch-training	Part of wider agri-environment monitoring approach.

Nation	Working Title / Area	Description	Lead Dept or Contact	Status	Notes	Visibility level
e.g. England	Soil Bank Pilot	Reuse of excavated soils; part of EIP delivery	Defra	Tender issued 2024	Early implementation phase	

Emerging Government Soil Research and Pilots Map

Example of of how this emerging research and pilot spreadsheet would look like.

Established Policies	E.g., Environmental Land Management (ELM), Sustainable Farming Scheme (SFS), Agri-Environment Climate Scheme (AECS)
Emerging Research and Pilots	E.g.,- LUNZ Hub 15 : Aligning soil monitoring methods and metrics across the 4 nations - LUNZ Hub 20 : Shared Evidence Statement – soil carbon - Soil Bank Pilot : Exploring reuse of excavated soils as part of EIP - Soil Health Enquiry – Wales : Committee-led evidence gathering on soil management

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Visibility Level	Description
Confidential	For internal use only within your own department. Please do not share beyond your team.
Internal (4 Nations)	Can be shared across England, Scotland, Wales, and Northern Ireland policy teams. Not external.
Public / Shareable	This can be shared publicly (e.g., LUNZ site, briefings, or with stakeholders).



Soil Focused Call Downs

There have been three soil focused Call Downs commissioned through the Agile Policy Centre

Call Down 15: *Aligning Soil monitoring, methods and metrics across the four Nations (this Call Down arose from our Workshop 1)*

Producing an an agreed set of metrics and methodologies that are used as a standard across all devolved UK administrations.

Call Down 21: *LUNZ Hub Design of a NI Peatland Communication Campaign (the Soils Tag is not directly involved in this Call Down)*

Developing an engagement and communications plan to disseminate findings from Northern Ireland's peatland restoration projects.

Call Down 20: *Shared Evidence Statement – Soil Carbon
(This Call Down is led by the Soils Tag)*

Creating a fully-referenced evidence statement on organic carbon (OC) storage—or losses—in UK soils, both nationwide and regionally



Looking ahead to 2026

During 2026, we aim to take forward the following...

~ **Next steps for Soils and Flooding workshop across themes:**

- Drought
- Resilience
- The role of soil guidance
- The role of the private sector and finance

~ **Join up across the Hub**

- Embedding Soils in Pathways and Scenarios
- Exploring where we can help join up our work with that of the other TAGs

~ **Future talking heads and workshops:**

- Understanding the role of soil types and maps
- National Monitoring
- Learnings from the EU Soil policy landscape
- The language of soil
- Framing/categorising different technologies for soil assessment
- Soils and public health

Key Suggestions for 2026 from our TAG community

The Soil TAG community provided suggestions and requests for what the soil TAG might achieve in the next year and by its endpoint. The key suggestions were:

- **Soil health and human health** - develop clear messaging on the link between soil health, crop nutrition, and human health.
- **Horizon scanning** – explore where soil monitoring could be in the next 10 years and how UK initiatives compare with international approaches.
- **Accessibility & use of historic soil data** – prioritise making soil data accessible and support uptake of newly released datasets.
- **Legacy, impact and knowledge sharing** – ensure outputs remain accessible beyond the programme lifespan and encourage wider sharing and reuse of TAG outputs.



Thank you for exploring our work!



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