

Consultation on Future Agricultural Policy Proposals for Northern Ireland
Consultation response by the Sustainable Soils Alliance

The Sustainable Soils Alliance (SSA) was launched in 2017 to address the current crisis in our soils. Its aim is to campaign to restore UK soils to health within one generation by seeing soil health elevated to where it belongs as a priority alongside clean air and clean water. The SSA is a non-profit organisation (CIC number 10802764).

2. The proposed conditionalities outlined to be eligible to claim the Resilience Payment are aimed at environmental improvement.

- 1. Participation in soil testing, including Light Detection and Ranging (LiDAR) - do you agree with this being a condition to claim the Resilience Payment? Explain your answer.*

Yes.

We are very keen to see the widespread adoption of on-farm soil health measurement and monitoring as this process can cause a positive feedback mechanism encouraging the identification of changes in soil health and the adoption of practises that improve soil over time.

As such, we agree in principle with making the participation in soil testing a condition of Resilience Payments and are encouraged to see the DAERA make soil testing a minimum requirement for public money. With only 18% of soils in Northern Ireland being at optimal fertility, this threatens food security, biodiversity, flooding risk management and climate change mitigation. A post-CAP Northern Irish policy should be the vehicle to drive baseline soil measurement and universal and standardised monitoring, including region/climate/crop specific thresholds for farmers to benchmark against.

According to the Sustainable Agricultural Land Management Strategy (SALMS), less than 10% of agricultural land in Northern Ireland has a valid current soil analysis, meaning only 2% of soils are being analysed each year and 90% of agricultural land in Northern Ireland is unlikely to be managed optimally. We therefore see the conditionality of soil testing as a positive first step in implementing the findings of the SALMS research, and call on the DAERA to commit to soil testing every five years in order to accurately track changes in soil health.

- 1. Preparing a Nutrient Management Plan (NMP) based on the soil testing and LiDAR information - do you agree with this being a condition to claim the Resilience Payment? Explain your answer.*

Yes.

We were pleased to see the policy proposal include training on nutrient management planning for farmers and welcome this being a condition for public money. We would also like to see the DAERA provide farmers with run-off maps to support this planning process.

In particular we would remind DAERA of the report: [Phosphorus Stock and Flows in Northern Ireland Food System](#) which highlights the excess phosphorus from NI agriculture, and the environmental (cleaner waterways) and efficiency (lower input costs) benefits to be gained from reducing phosphorus additions.

We would encourage the DAERA to provide more detail on the type of advice and information offered to farmers, to ensure behaviour change and knowledge transfer emerges from the soil testing and NMPs. We would also like to better understand how the nutrient management plan proposals align with and/or will feed into a regulatory baseline for inputs.

23. Do you agree on the proposals identified for low carbon emission farming practises? Explain your answer.

Yes.

We are encouraged to see the emphasis on low-carbon farming practises and the inclusion in the proposal to establish and refresh baseline data on carbon stored in agricultural soils. It is also crucial to note that soil carbon sequestration is not only about climate change mitigation, but a variety of ecosystem benefits – biodiversity, clean water, flood risk management etc. Indeed, the evidence base that underpins these services is generally stronger than it is for GHG reduction.

To that end, while there is agreement that soil carbon can contribute to low carbon farming and moving towards net zero, it remains unknown exactly what the scale of this opportunity is for different soil and landscape types. To that end, we recommend investment in the measurement and modelling of soil carbon stock change over time according to different climate and soil characteristics, to better understand the realisable carbon sequestration potential of agricultural soils.

As you will know, thanks to the range of ecosystem services that soil carbon generates, land management practises that sequester carbon are increasingly being incentivised (across the UK) by market-based mechanisms (off-setting, ecosystem services etc.) that pay farms for the carbon they capture and store in soils. However, these schemes operate to separate legal, practical and measurement criteria and these divergence risks cause confusion for farmers, investors and policy-makers, leading to market fragmentation, the undermining of stakeholder confidence and soil carbon sequestration's long-term economic and environmental potential.

To address this, the Sustainable Soils Alliance is currently working with a consortium of leading experts to develop a [UK Farm Soil Carbon Code](#) (mentioned on p.58 of this consultation document), and as such would welcome the opportunity to be part of the stakeholders consulted in the development of this scheme.

We see a clear role for DAERA here in addressing market fragmentation by supporting the creation of this Code, a neutral, open-access platform that would be accessible to all farmers and robust enough to be adopted by operators of carbon offset registries, carbon capture incentive schemes (offsets, payments for ecosystem services and environmental investment products). In addition, we would like to see DAERA promote a consistent approach to the monitoring, reporting and verification (MVR) of net carbon transfer through the creation of a robust MRV framework that would be applicable for any given agricultural field in Northern Ireland using the latest tools and technologies.

24. Do you agree with the principle of encouraging the Farming of Carbon as a business enterprise? Explain your answer.

Yes.

In principle, we agree with the notion of carbon farming, and of soil carbon sequestration being an element of this. However, for such an approach to deliver genuine and credible benefits to farmers and the environment, the following criteria for both the sequestered carbon and the marketplace around it needs to be met, as follows:

- **Credible:** Sequestered carbon must be scientifically measurable according to robust, high-integrity methodologies.
- **Additional:** Paid for activities must be over and above what would have occurred under business-as-usual conditions.
- **Permanent:** Regenerative practises must be maintained to ensure that any sequestered carbon is retained in the soil over an agreed period of time
- **Verified:** The approach used and the changes in carbon stocks claimed must be verified by a trusted, third-party organisation
- **Transparent:** Rules need to be established to avoid double-counting - separate market players claiming the same carbon increase.
- **Holistic:** A UK Soil Carbon marketplace must not lead to CO₂ or GHG increases elsewhere or have a negative impact upon food production.
- **Scalable:** The marketplace must deliver carbon sequestration at sufficient scale to generate value for money and low overheads for farmers and investors.
- **Fair:** Projects should not reward historic or deliberate soil carbon loss or land managers who are not making adequate carbon reductions efforts elsewhere.

We would also echo the point made earlier that soil carbon increases generate a number of benefits over and above climate change mitigation and that a credible carbon market should reflect this and look to secure investment from the variety of businesses and stakeholders (public and private) that benefit from increased soil carbon.

This is partly to ensure that the full range of benefits from soil carbon are understood and fairly represented, but also because the investment for climate change benefits alone may not be adequate to motivate practice change in which case it will be necessary to stack different income sources and different environmental outcomes.

28. What are your views on the approach to Knowledge Transfer and Innovation for land managers, farmers and workers set out in this document?

We welcome the measures in place to facilitate peer-to-peer learning through the Knowledge and Innovation Schemes.

We'd like to highlight that at the heart of the overall 'knowledge exchange' issue for soil also lies the absence of consistent, authoritative and independent guidance on how to avoid, diagnose and remedy soil problems. The 'consistent guidance' needed would not be a one-size-fits all blueprint but built on the farming enterprise, existing practice, soil type, climate and other factors.

Government-driven guidance would need to balance this with information about compliance, stewardship and the environmental impacts associated with soils. It should also address some critical knowledge gaps including how to remedy soil compaction and degradation, the role of sub-soils, the benefits of land drainage and the understanding and interpretation of soil carbon.

31. Are there gaps in the current provision Knowledge Transfer and Innovation programmes that need to be addressed?

We believe more detail is required as to how the DAERA plans to ensure knowledge exchange occurs from the soil testing and LiDAR measurements - such as will one-to-one advice be given to farmers receiving such payments in order to understand and improve their land management practises? Farmers should have access to a suite of advice options so they can choose what works for them - including peer-to-peer learning, independent advisors, certification schemes and guidance.

There is also a huge variability in soils knowledge across the advice community caused by a lack of adequate training and moving goalposts. Many advisors - like farmers - are very detached from the ecosystem services soil actions deliver. They have been educated to minimise productivity risks, protect crops and maximise yield without consideration of the disbenefits/public goods. We think there is an opportunity for the Knowledge Advisory Service (KAS), the single advisory service aimed at supporting Northern Ireland's farm and food businesses, to provide independent (no conflict of interest), accredited advice on soil health management.

36. What are your views on the scope and effectiveness of existing supply chain measures (market transparency/information, education and knowledge transfer, incentivisation) to help deliver a more efficient, competitive supply chain?

We are encouraged to see measures aimed at the supply chain, as leveraging the supply change/industry to achieve environmental outcomes is critical.

We would like to draw your attention to our recent report [Soil in the UK Supply Chain: How the food and drink industry can support the transition to sustainable, regenerative agriculture and Net Zero](#), which examines the soil health initiatives pursued by major food and drink businesses in the UK.

Whilst much of the report focuses on the potentially damaging role the supply chain can have in the UK through its demands on the arable and horticulture sector, there are lessons about how best these businesses can be motivated to promote soil management that are applicable for businesses operating in the dairy and livestock sectors.

37. Do you agree with the three proposed policy areas when considering future supply chain measures? Explain your answer.

Yes.

We agree with the proposals put forward as our research revealed that efforts by food businesses to promote soil management throughout their supply chains will not have a tangible impact on Net Zero, biodiversity or sustainable farming outcomes without a more ambitious, strategic, collaborative and targeted approach. We would like to highlight the [five recommendations](#) in our report aimed at key supplier chain players - both retailers and manufacturers, many of whom source directly or indirectly from Northern Ireland. These include embedding regulatory compliance and safeguards, aligning metrics, and ensuring research translates into best practice - which compliment the DAERA's three proposed policy areas.

We would particularly like to highlight the need for supply chain players to make the most of available and future research and ensure it translates into practice change on the ground as widely as possible. The intent, investment and expertise of these businesses is not being exploited to its full potential. Greater effort is required to turn available research into management change on-farm and there is a need for the government to encourage knowledge and data sharing in the sector.

Ultimately, soil improvement is incremental, non-excludable and reversible – the benefits are spread among the farmer, land-owner, other users of the soil and the environment in general. By the same token, benefits accrued over decades by the right management approach can be reversed in a matter of months by the wrong ones. There is no point in a food business trying to create better soil in their supply chain on their own with small-scale interventions and there we see a role for the DAERA to play in promoting industry collaboration and alignment to drive soil health on farms at scale.

40. What are your views on the proposed uses for data provided via the proposed Soil Nutrient Health Scheme?

We are strongly supportive of the Soil Nutrient Health Scheme and through it establishing baseline data on soil nutrient status and soil carbon modelling across all Northern Ireland farms. We are pleased to see the DAERA recognise the importance of soil health monitoring and its necessity and ability to deliver future agricultural and environmental policies as well as encouraging behaviour change in farming - this is something we have been highlighting and campaigning for since our inception.

We would like to see the monitoring of carbon/soil organic matter clearly included in the scheme (alongside nutrients) and in any future baseline (ideally to both a depth of 0cm-30cm and 30cm-60cm). It would send a clear message on the importance of soil carbon as the critical indicator of soil health – for productivity benefits as well as public goods - biodiversity, climate change, and water storage and filtration. Regular, consistent monitoring according to agreed parameters and thresholds would pave the way in the long term to the creation of a baseline for soil carbon.

We would like to see greater clarity around the ownership of data, in particular soils data since this has considerable implications for farmers' land value. There needs to be a clear demarcation of what can and will be shared and how.

41. Do you agree that in order to maximise future support payments, applicants should have to demonstrate that they have a current, (updated regularly) Nutrient Management Plan? Explain your answer.

Yes.

If farmers are to receive public money, then they should demonstrate that they are contributing to the delivery of public goods. The better management of critical nutrients for the reduction of diffuse pollution in Northern Irish rivers and lakes would be an ideal demonstration of the value that farmers can deliver.

We would also urge the DAERA to consider formal guidance around management practises and independent advisory services alongside the Soil Health Nutrient Scheme to ensure farmers understand their soils and the ecosystem services they can provide alongside increases in productivity.

42. Have you further specific suggestions for how the data provided by the Soil Nutrient Health Scheme could be used or promoted by government?

It is crucial to obtain new data for national soil monitoring that is comparable between fields, farms, regions, etc. Data collected under different methods are difficult, and at times impossible, to reconcile and use in a combined manner, hence it is important for the DAERA to support a consistent approach. The soil testing under the Soil Health Nutrient Scheme should be repeated every 5 years, using the same methodology and the same geolocations. This will ensure soil health is the only variable and allow the DAERA and farmers to track changes in soil health at a national and on-farm level.

The monitoring being undertaken as part of the Soil Health Nutrient Scheme would also allow for the setting of targets for soil health in Northern Ireland, which we would encourage, as it would set the bar for the other nations of the UK to do the same, and in time for a UK-wide soil target to be a possibility.

46. Do you agree with the proposal to replace the current Cross Compliance system with the simplified 'Farm Sustainability Standards' (FSS)? Explain your answer.

Yes

We are pleased to see the DAERA address the regulatory gap resulting from leaving the EU's CAP and we welcome the acknowledgement that soil can be both a pollutant and a vehicle for pollution in FSS1.

In due course, and to help fill this gap, we see the need for a soil-specific statutory instrument (standard) with the aim to protect soil multifunctionality and the diverse public goods and services provided by soils - in particular those related to carbon storage and sequestration (achieving net zero carbon as well as climate change mitigation) water storage, soil fertility, biodiversity etc.

As part of this, we would like the DAERA to explore the creation of a baseline for soil carbon, which would set the obligation for all farms to measure organic matter and maintain soil health, even those who do not wish to participate in the voluntary Soil Health Nutrient Scheme. A regulatory baseline would also help farmers access private funding sources including trusted farm assurance, nutrient trading schemes, collaborations with local development authorities and via protocols for carbon off-setting – schemes which will need to see legal compliance as a condition before investors will commit.

Any new regulatory approach for soil should also be created in a way that explicitly recognises the role and responsibility of the food supply industry - by enforcing regulations through their supply chains and basic standards, such as Red Tractor, as well as ensuring they don't accidentally encourage non-compliance through contractual arrangements.

47. Have you specific suggestions for how compliance with the proposed Farm Sustainability Standards should be controlled? Explain your answer.

In understanding how to best achieve proportionate compliance of any future soil-specific regulations in Northern Ireland, we would draw your attention to the example of England, and specifically the 8 Farming Rules for water (8 FRfW), (introduced in 2018 to achieve regulatory compliance with aspects of the EU Water Framework Directive - equivalent to the 2017 Water Environment Regulations in Northern Ireland).

The challenge with the 8 FRfW was not so much with the rules themselves, but with their communication, awareness raising, enforcement and clarity about penalties, and these are the considerations that should be borne in mind.

- Enforcement action by the EA on breaches remains negligible with 7 warning letters in 2018/19 and 3 warning letters + 5 “advice and guidance letters” in 2019/20. No notices have been served relating to any breach in either year.
- From 2010/11 to 2016/17 - “Total Environment Agency prosecutions of businesses fell by 80%”. Unchecked UK 2019.
- It used to be the case that on average each farm would be inspected once each 100 years (pers com), but recent cuts to EA budgets have increased this to 263 years. Salmon & Trout Conservation (S&TC) in ENDS 2020.
- UK’s enforcement gap - regulatory budgets in the UK have fallen by 41% in real terms over the last decade. Unchecked UK 2019.
- From 2010/11 to 2016/17, the Environment Agency’s environmental protection budget fell by 62%. Environment Agency staff fell by 22%, and the “number of water pollution samples taken by the Environment Agency fell by 28%.” Unchecked UK 2019.

52. What other metrics do you suggest are included in the suite of metrics but that would sit below or play a supporting role to the high level overarching metrics?

We would like the DAERA to consider the development of government endorsed metrics for soil health in the years to come (such as soil carbon/organic matter, pH, NPK). The ambitious Soil Nutrient Health Scheme should be seen as an opportunity to establish these and secure a baseline for each specific to soil type, climate and land use. We would also like to highlight the current knowledge gaps present in accounting for soil compaction and bulk density in calculating carbon stocks - future research on a soil compaction metric is required to accurately account for carbon storage.