SUSTAINABLE SOILS ALLIANCE

November 2021

Agricultural Transition in Scotland: first steps towards our national policy
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).

Baselining

1. Should agricultural businesses receiving support be required to undertake a level of baseline data collection?

a.	*Yes*	*X*
b.	*No*	☐
c.	*I don't know*	☐

B. Please explain your answer

We believe that agricultural businesses receiving support should be required to undertake a level of baseline soil data collection if the Scottish Government has ambitions to access and use the baseline data to support policy. We would like to see routine soil monitoring of critical indicators (specifically Soil Organic Matter (SOM), bulk density, nutrients, pH) included in the baseline standards. If farmers are to be in a position to receive public money they need to transparently and demonstrably deliver the public goods expected of them.

A post-CAP Scottish 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. Encouraging soil measurement and monitoring is also the critical entry-point for engaging farmers with their soil. It provides a positive feedback mechanism that enables farmers to see that their soils are changing and that their practices are having an effect. A standardised approach to soil monitoring will also enable farmers to feed into national environmental commitments and verify value for money to the tax-payer.

It is also 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 Scottish Government to support a consistent approach. This support could come in funding or guidance on obtaining consistent data, or in the form of incentives if data is submitted to the Scottish Government having followed acceptable procedures. One example of this is the Australian government who is providing grants to farmers to support baselines for soil carbon stocks. They are also providing detailed robust methodologies to do this.

Last week, the Scottish Government signed up to the 4 per 1000 initiative to boost carbon storage in agriculture soils. In order to measure progress in this area, soil carbon monitoring should be a prerequisite

for public funds. There are a growing number of protocols for measuring and valuing soil health and carbon sequestration that are scientifically robust, affordable and practical at a field level that are already being widely applied. Embedding soil carbon monitoring would be a critical step towards driving soil understanding and appreciation throughout land management. It would also send a clear message about 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.

2. Should collected data be submitted for national collation?

d. Yes X
e. No ☐
f. I don't know ☐

B. If yes, what information should be collated nationally?

From a soils perspective, this data should be submitted for national collation for the following reasons:

1. Policy. Scotland currently lacks sufficient current data from agricultural soils to be able to carry out national or regional analyses and modelling to support policy.
2. New extensive data from agricultural soils could drive transformation in research and development in many areas, from academic to commercial.

In terms of what data should be collected, a first port of call should be the minimum datasets for national soil monitoring which were devised by previous RESAS programmes.

C. Please explain your answer

There are two areas that would benefit from new current data:

1. Modelling to better understand resilience to climate change in Scottish Agriculture, or changes in land use policy. Modelling work, carried out by MRPs and Universities, continues to be widely used in decision making by the Scottish Government. Soils data underpin many of these models, however the majority of these data are over 30 years old and relatively sparse for agricultural soils. New data for agricultural soils would vastly improve modelling capacities.
2. The Scottish Soil Framework (2019) committed the Scottish Government to soil monitoring which has yet to be realised on a substantive scale beyond peat soils. The national collation of new data from agricultural soils would be a major step in establishing new soil monitoring.

3. What are the next steps that can be taken to commit businesses to continuous improvement utilising the information presented by carbon, soil, biodiversity auditing?

Please explain your answer

The first steps should be about the encouragement to commit based on evidence relevant to the businesses. For soils, this is likely to be land managers and farmers.

Farmers are well aware of what soils data mean with respect to productivity for their fields. There is currently too little information to support farmers and other land managers in realizing the potential of their soils for carbon storage, biodiversity, water quality or soil health, reflecting their local environment. Soils data and information needs to be scaled from national to regional to field to help support agribusiness in delivering environmental goods.

If this is not sufficient then other measures could be considered, for example an ecosystem carbon tax, as being proposed by The John Muir Trust.

4. How can baselining activities be incorporated into common business practices across all farm types?

Please explain your answer

Baselining activities can be incorporated into common business practices if the collection and collation of this data is supported by the government e.g. through Scottish Environment Web or through RPID reporting.

Capital Funding

4. Should capital funding be limited to only providing support for capital items that have a clear link to reducing greenhouse gas emissions?

g. Yes ☐
h. No *X*
i. Don't know ☐

B. If not, why not?

No – this should also include investment in Natural Capital.

Just transition

11. What do you see as the main barriers for farmers, crofters and land managers in a just transition to a net zero economy?

Please explain your answer

One of the main challenges for farmers and land managers is the lack of confidence that the investment in change will be worthwhile.

Sequestration

12. How best can land use change be encouraged on the scale required for Scottish Government to meet its climate change targets?

Please explain your answer

The following steps could be taken to encourage land use change on a wider scale to meet climate change targets:

- Acknowledge the carbon sequestration gains that can be obtained from soils under land use change, for example in the Woodland Code.
- Continue and expand the restoration of peat soils across Scotland, including a cessation of peat extraction.
- Support alternative income streams for farmers and land managers to offset productivity / income losses from land use change.
- Consider incentives to move in-field areas of highly organic soils out of agricultural production.
- Support agroforestry to limit runoff and soil erosion and maintain soil organic matter and biological activity at levels satisfactory for soil fertility.
- Promote the climate gains that will be obtained from land use change – from soil and above ground carbon sequestration. This has been done well for peatlands but needs to be expressed for other land-use changes from woodland expansion, rewilding to moving to mixed farming from arable only.

Research & Development

15. In light of ongoing research activities supported by the Scottish Government and the 2022-2027 research strategy, are additional measures needed to ensure research is supporting the agriculture sector to meet its climate change targets?

a. Yes X
b. No ☐
c. Don't know ☐

B. If yes, please specify

The following measures are required to ensure research is supporting the agriculture sector to meet its climate change targets:

- Encourage a strong relationship between the next RESAS programme and Scottish farmers, for example by enabling farmer groups to engage in the co-creation and co-production of research with RESAS funded research teams.
- Use the Centres of Excellence to identify and support focussed and applied research partnership projects that meet critical agricultural R&D needs.
- Roll out comprehensive modelling and mapping of soil carbon sequestration opportunities for the agricultural sector.
- Roll out National Soil Monitoring that can make use of the research generated and support agribusinesses in baselining and monitoring soil health and soil carbon stocks.
- Expand the Scottish Soils Information System to be able to collate new soils data from agriculture and in turn enable the research community to generate new soil information products to support agriculture.

Knowledge & Skills

16. What importance do you attach to knowledge exchange, skills development and innovation in business?

Please explain your answer

At the heart of the overall 'knowledge exchange' issue for soil lie two factors 1) the absence of consistent, authoritative and independent guidance on how to avoid, diagnose and remedy soil problems, and 2) the lack of sufficient nationally-coordinated research that provides the evidence needed to deliver sound management guidance on best practices.

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. We urge the Scottish government to consider formal guidance and the advisory services alongside one another as there are challenges common to both. Guidance aimed at farmers on soil health, soil functions and undertaking new practices for soil health in Scotland and in the UK is patchy. Its evolution over recent decades has been formed by 'unofficial' bodies – universities, research institutes, levy organisations, NGOs, retailers and input manufacturers as well as statutory organisations.

As a result, farmer understanding and appreciation of soil is also patchy. The connection between soil health and productivity is much better understood than the link between soils and ecosystem services which is a new concept and provides a very different set of goals and associated management challenges.

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.

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.

Across all four countries of the UK, there is a shared need for independent (no conflict of interest), accredited advice. It is a particular problem where advisers are trained to sell one product – they need to be upskilled to deliver a broad spectrum of quality, all-farm advice.

Any advice targeted at farmers should be flexible, simple, easy to engage with and encourage straight-forward actions. Farmers should have access to a suite of advice options so they can choose what works for them - including peer-to-peer learning, certification schemes and guidance – rather than simply a dependence on advisors.