

**Soils in the Sustainable Farming Incentive (SFI)**  
*Delivering results for farming and the environment?*

Workshop Report

On 22nd March the Sustainable Soils Alliance (SSA) hosted a workshop on Soils in the Sustainable Farming Incentive (SFI) in partnership with the Department for the Environment, Food and Rural Affairs (DEFRA).

The workshop provided an opportunity for a range of organisations (science, farming, policy-making, NGO) to review the SFI scheme and its two soils standards (Improved Grassland Soils and Arable and Horticultural Soils); evaluate its design, content and financial elements as well as consider whether it will deliver the environmental land management intentions to support productive and sustainable farming and food production alongside environmental, climate and animal welfare outcomes.

**Key Takeaways**

1. **Objective:** The objective of the SFI is to deliver DEFRA's ambitions outlined in the Government's 25 Year Environment Plan (25YEP) and Net Zero obligations, rather than replace BPS or Cross Compliance. As such, the priority of the SFI is to maximise the amount of land entered and the range of activities implemented.
2. **Quantifying results:** The scheme will take a broad-brush approach to both compliance and results quantification. DEFRA will focus on monitoring outputs (i.e. green cover) rather than outcomes (improved soil health). It is easier to monitor when a farmer is delivering a tangible output and an over-emphasis on outcomes measurement could slow momentum as these are both harder and longer to measure.
3. **Outputs-based approach:** Concerns were expressed that this outputs-based approach might mean the co-benefits for the environment of any practices will not necessarily be captured - leading to an under-estimation of the environmental benefits as well as the benefits to farmers of improvements to their soil.

Participants felt that DEFRA still has a job to do to demonstrate it had learned the lessons of previous schemes – that the SFI would be clear, simple, user-friendly and non-punitive. The SFI must be simple and efficient. It must be flexible rather than punitive when circumstances (e.g., weather) would be unfavourable for the implementation of certain practices.

4. **Payment rates:** In terms of payment rates for the soils standards, DEFRA has employed an income forgone plus costs model as this is a WTO requirement. Participants expressed their concerns, about this, and specifically:
  - Whether the payment rates will result in significant scheme uptake and thus drive the positive environmental change envisaged.

- Whether public investment is adequately targeted at procuring priority environmental goods. Full transparency was needed to ensure that environmental benefits were greater than the costs, to inform the private market and address issues of additionality in the voluntary carbon market. Concern was expressed that the cost-benefit analysis/calculations behind the payment rates had not been made public.
5. **Advice:** There will be no bespoke advisory service to support the SFI scheme (in the short term at least).
    - There is a clear role for independent advice (echoing comments made in a recent Lords report). Participants called on DEFRA not to rely on the commercial advisory industry to help deliver SFI ambitions as their commercial interests may conflict with environmental priorities. Instead, DEFRA should support peer-to-peer learning for farmers and advisors.
    - DEFRA should consider incentivising soil-specific training for farmers.
    - Access to relevant soil maps to inform advice is also needed.
  6. **Guidance:** Under the SFI there will now be a 'direct line of sight' between the actions being asked of farmers under the soils standards (see latest SFI updates published after the workshop [here](#)). The guidance is yet to be published as at time of writing, it is still subject to stakeholder engagement.
  7. **Soil Assessment:** It is currently up to the farmer how they wish to conduct a soil assessment under the SFI scheme.
    - Guidance to encourage farmers to assess their soil structure according to standardised metrics and methodologies (soil organic matter, earthworms and visual assessment) is being developed separately under DEFRA's Soil Structure Measuring and Monitoring (SSMM) scheme, a voluntary scheme farmers will be able to enter for a separate payment. SFI payments will not be linked in any way to soil assessment findings.
    - This guidance is also being adapted for the soils standards.
    - The SFI scheme and its soils standards are separate from the SSMM scheme, however these will align to ensure farmers having entered the SFI scheme are eligible for payments under the SSMM scheme.
  8. **Regulations:** As it stands, there is some 'overlap' between the SFI soil standards and regulations, raising the concerns that farmers will be paid for activities that are otherwise required by law. DEFRA explained that this is due to the two mechanisms having different intentions - to prevent harm (Regulations), and to create a direction of travel (Standards). Soil-relevant regulations will be brought together in a clearer way under the Soil Health Action Plan for England (SHAPE). There are no immediate plans to publish a regulatory review.
  9. **The Soil Carbon Marketplace:** Participation in the SFI should not stop farmers engaging with whatever private sector scheme they wish to. However, the private schemes may have their own rules so it is up to farmers to check that they can satisfy any trading scheme they enter. In the longer term, the Treasury would like the marketplace to deliver environmental goods without government involvement. The blending of public and private schemes is uncharted territory globally – requiring leadership from DEFRA e.g. on additionality clauses and across different ecosystem codes (woodland, peatland, soil carbon etc).

10. **Clarity Needed:** Participants identified several areas where the SFI would benefit from further clarity. These included definitions for eligibility, the viability of the scheme for small farms, future flexibility of the scheme design, government commitment to continued payments and how the three ELM schemes will work together.

## Questions and Discussions

The following is a summary of the (unattributed) contributions made during the workshop, based on the five key questions asked to both DEFRA and attendees on the day.

### Policy summary and government ambition for soils

- The government recognises that soils are one of the UK's greatest assets, delivering a range of ecosystem services and outcomes and are essential for food production, flood protection and climate change mitigation.
- Poor soil management and inappropriate land-use can impact soils' ability to deliver these benefits by causing compaction, erosion, runoff, and contamination. Soil degradation costs in England and Wales £0.9-1.4bn annually. 12% of this is associated with soil erosion and 47% is due to the loss of organic soil carbon.
- DEFRA understands these risks, which is why soils have increasingly been a government priority. The government drivers that are essential to improving soils are as follows:
  - The 25 Year Environment Plan - setting out the government ambition for sustainably managed soils by 2030.
  - The Agricultural Act - the power to provide assistance to farmers and land managers by funding incentives ('public money for public goods'), research, monitoring etc.
  - The Environment Act - which will have a legally binding target for soils once baseline data is established.
  - The Soil Health Action Plan for England (SHAPE) - which, once published, will be a strategic vehicle to provide a coherent plan for multiple soil health outcomes.
  - Incentive schemes - the three Environmental Land Management (ELM) schemes: the SFI, Local Nature Recovery (LNR) and Landscape Recovery (LR).
  - The Net Zero target and wider environmental government ambitions, such as the Nature Green Recovery Paper.
- SHAPE was announced in October 2021 and the Plan's framework will be out for consultation in late spring.
  - It aims to improve soil health and prevent further degradation.
  - It will provide certainty around acceptable conditions of all soil types and encourage appropriate management practices to be adapted to protect soil from climate change.
  - The key focus of the Plan will be to:
    - **Prevent** soil from degradation and erosion.
    - **Protect** soils to build resilience and adaptation management.
    - **Improve** soil health through monitoring and mapping soil health to check soil is being responsibly managed.
  - DEFRA will also be implementing a National Measuring and Monitoring scheme, developing a soil health indicator, and a Soil Structure Measuring and Monitoring (SSMM) scheme (citizen science approach).
  - The Plan will also seek to improve soil biodiversity and help meet the 2030 target of reducing species decline.
  - DEFRA views soil health on a Natural Capital approach (holistically: chemistry, physics and biology functions of soils).

- The SFI soils standards will play a key part in protecting and improving the health of England's soils.
  - The roll out of the first element of the SFI will begin later this year (*the latest updates on the SFI scheme can be found [here](#)*).
  - The SFI will begin with a soil focus as this is pivotal to encourage sustainable agricultural practices with soils being a key national asset. The roll-out will have two soils standards: arable and horticultural soils, and improved grassland soils, both introductory and intermediate levels.
  - The roll-out will also have a moorland standard (introductory level only) and a soils standard for unimproved grassland will come later in the roll-out.

Question 1: How will the SFI demonstrate environmental impact over time?

**DEFRA developments/ambitions**

- DEFRA explained that the two soils standards have been simplified from their earlier versions to make progress and compliance easier to assess.
- The soils standards have been approved by the Treasury and whilst Treasury expects to see change and improvements over time, they are aware that soils respond slowly.
- Monitoring uptake for the SFI will be relatively straight forward. DEFRA has a modest ambition for uptake this year and recognizes that payments for soils alone are low. The standards that will come into place in the following years and BPS reductions will increase the attractiveness of the SFI.
  - The 5ha limit will be carried forward from the BPS scheme for pragmatic reasons, however DEFRA will be considering the removal of this rule to allow smaller farms and more of the horticultural sector to apply (DEFRA are also exploring a potential specialist horticulture standard).
  - If stakeholders feel that the scheme will fail to cover specific sectors, DEFRA welcomes suggestions.
  - Heavy land has been a concern for SFI application, but the open-ended nature of SFI standards hope to give leniency and work for heavy land.
- DEFRA will be focusing on monitoring outputs (i.e. % of land coverage) rather than outcomes (the environmental benefits derived from outputs). Outcomes are judged to be too difficult to measure, so the focus is on tangible outputs that farmers know they are delivering. The timeframes for monitoring outcomes will be much longer.
- In terms of monitoring management practices such as cover cropping, the RPA is piloting activities such as remote sensing of how much land is bare.
- Monitoring the application of organic matter is harder to do, this will require testing of soil organic matter (SOM) and DEFRA does not expect to see overnight changes in soil health from this.
  - To assess the use of organic matter, farmers will be asked to submit records of their application of inorganic and organic fertiliser on a proportional basis.
- Concerning the measuring and monitoring of soil health, both soils standards require farmers to undertake a soil health assessment and create a soil management plan. This data will not be collected under the SFI scheme and farmers will not be expected to conduct a specific standardised methodology for these assessments under the SFI soils standards.
- The RPA will oversee farmer agreements. The DEFRA SFI team has been working closely with the RPA and hopes to build a 'farmer trusting' relationship, focused on outputs rather than prescriptiveness.
- DEFRA plans to move away from prescriptive EU rules and instead favour a supportive approach, whilst retaining power to recover money in the likelihood of fraud.

- DEFRA has no plans to make their cost-benefit analysis publicly available.

#### *The Soil Structure Measuring and Monitoring (SSMM) Scheme*

- The DEFRA soils teams is currently working on the development of a standardised soil structure methodology as part of DEFRA's Soil Structure Measuring and Monitoring (SSMM) scheme, under which farmers will be paid to assess their soil structure according to standardised metrics and methodologies (for soil organic matter (SOM), earthworms and visual assessment). This data will be collected by DEFRA and will eventually lead to a non-legally binding target, as part of DEFRA's natural capital assessment.
- Under the SFI soils standards, farmers will be required to do basic sampling, whilst under SSMM scheme, farmers will be offered further funds to do this sampling following a standardised methodology and will be provided with benchmarks to track their progress over time. The DEFRA SFI team and DEFRA Soils Team are working together to ensure farmers who enter the SFI scheme will be eligible to enter the voluntary SSMM scheme.
- The data sharing element of the SSMM scheme is currently under development, there are currently no plans to make data publicly available, other than for participating farmers.
- The benchmarks and methodology underpinning the SSMM were developed through a collaboration by the Environment Agency, the UK Centre for Ecology and Hydrology (UKCEH) and the Sustainable Soils Alliance.

#### **Comments/concerns raised by attendees:**

##### *Monitoring of practices and 'outputs'*

- It was suggested that remote sensing (for monitoring cover crops) alone may not be appropriate as farmers may sow covers but due to unseen adverse weather conditions growth of winter/green cover may be suboptimal. Evidence in the form of seed purchase/sowing could also be considered as validation of activity.
  - Further clarity around the term "weedy stubbles" and explanation on how the RPA will monitor these is needed. Overwintering stubbles are critical habitat for arable bryophytes, which can help to form a crust over the soil and stabilise the surface but, due to their minute size they may be hard to see remotely.
- In regards to the monitoring of organic matter, it was highlighted that soils respond quickly to the introduction of new organic matter. It is the total SOM that responds slowly.
- It was suggested that if the monitoring is focused on outputs, then the co-benefits for the environment of any practices will not necessarily be captured, which could lead to the underestimating of environmental benefits as well as the benefits to farmers of improvements to their soils i.e. ultimately reducing costs in fertiliser application rates. A longer-term monitoring of those benefits to the agronomy and the environment could allow for a more holistic analysis which demonstrates the value to producers and society of a shift to more sustainable practices.

##### *Farmer uptake*

- Some suggested that the removal of the 5ha rule alone won't necessarily make the SFI workable for farms under that hectareage, as the payment structure represents another barrier.
- Further clarity is required around what DEFRA considers as "eligible" beyond simply "arable, field vegetables, horticultural" and "improved/unimproved grassland" for the SFI soils standards.
- Further clarity is also needed around whether there will be a lower limit for uptake, either in absolute numbers or timescale, below which DEFRA would consider revising the scheme.
- Reassurance that funding will not be reduced if uptake is indeed poor was also demanded.

### *Cost-benefit analysis*

- Many voiced the need to make DEFRA's cost-benefit analysis public, to ensure benefits are greater than the costs, inform the private market and address issues of additionality in the voluntary carbon market.
- It was also highlighted that not making this information available was opposed to the UKRI's "open science agenda".

### *Alignment with the other ELM Schemes (Local Nature Recovery and Landscape Recovery)*

- Many called for further clarity when it comes to the stacking of the three ELM Schemes. There is currently confusion as to whether those taking part in the Landscape scheme would be eligible for the SFI or Local Nature Recovery schemes.

### *Farmer certainty and RPA history*

- Concerns were raised about the late-stage development of the SFI and the soils standards, in a period when farmers are looking for certainty.
- The monitoring and regulating happening through the RPA must also provide certainty, particularly considering the recent experience of farmers enrolled in the Countryside Stewardship facing challenges including considerable waiting time (up to one year) for agreements to pass validation. If the same happens with the SFI scheme, farmers will not engage. Application processes must be simplified.
- Many voiced the need for a compliance regime that focuses on a direction of travel rather than strict compliance. The need was raised for trust-based relationships around an understanding of contextual circumstances – such as possible derogations being applicable when unforeseen circumstances make meeting the required output in any one year impossible.

### Question 2: Will the financial incentives proposed be sufficient?

#### **DEFRA developments/ambitions**

- DEFRA have considered several approaches in terms of payment rates and have concluded that the only viable option is undertaking an income forgone plus costs model. This is a World Trade Organisation (WTO) requirement, meaning DEFRA is bound by this mechanism. This requirement means that DEFRA cannot incentivise the uptake of the SFI scheme.
- DEFRA has analysed the impact of BPS on the environment and revealed that out of the £1.8bn a year spent on BPS, it only generated £50m worth of benefits to the environment as a whole (wider than soils).
- DEFRA is unable to increase payments to increase uptake without demonstrating value of money to Treasury.
- The advanced payment rates are still in development and could potentially be higher.
- In terms of calculating these payments, DEFRA has worked to the average gross margin of 50<sup>th</sup> percentile, which is what is typical across the industry. Note that the study conducted by the Andersons Centre is working at a different percentile (70<sup>th</sup> percentile), which saw larger and more intensive farms at a greater risk of losing money with increased losses in income-forgone. However, these are seen as anomalies by DEFRA. For DEFRA, moving up the cost curve to even the 55<sup>th</sup> percentile would result in a challenging conversation with the Treasury.
- The application process has been simplified and streamlined with no need for agents etc.
- DEFRA does not think these payments will only be attractive to farmers already on a journey towards sustainable farming. Rather DEFRA hopes that the intermediate Arable and

Horticultural soils standard will help reduce exposed soils in winter, often on land where it has not been possible to plant cash crops in time. Instead, it will encourage farmers to protect their soils by sowing cover crops or leaving weedy stubbles during the autumn.

- Farmers will subsequently gain a reduced need for soil nutrient inputs with added organic matter from the autumn cover crops, but also reduce stress of needing to get cash crops sown in Autumn. This will allow for improved yields for Spring cash crops with added organic matter and improved soil health.
- However, it should be noted that the decision to grow a cover crop or not, or to retain 'weedy' stubbles is more complex than this, and the benefits are not as clear cut.
- Payments will be made on a quarterly basis and there are no current intentions to review these payments. Current levels of volatility mean there is a need for certainty around payments rates and if payments were to increase when commodity prices do, they would also drop when these commodity prices decrease, which would not be viable for farmers.
- Work is also underway to ensure the various grants streams farmers can apply for and the three ELM schemes will link up. DEFRA appreciates that the future farming offer currently looks disjointed, and it is considering a simple single service for farmers to access these various strands as a single package depending on what they are eligible for.

#### **Comments/concerns raised by attendees:**

##### *WTO requirements*

- It was explained that the WTO “Green Box rules” are a set of rules for government agri-environment payments, which are binding but can be circumvented if they are not being paid by the government.
- Some voiced their frustration at the inability to treat the ELM schemes as public procurement of environmental services and therefore set payment rates at whatever level they need to be to achieve the level of environmental services required in the context of the climate and biodiversity crises.
- It was observed that the WTO has been criticised lately, including on its inadequacy to ensure benefits to the environment.
- It was suggested that perhaps payments could be made by local authorities to by-pass WTO requirements. However, whilst this could be explored, it is likely that a national scheme will remain tied to international rules.

##### *NFU research and income forgone plus costs model*

- The NFU has been engaging with the SFI pilots to understand the economic viability for farmers engaging in the soils standards and have noted that the standards have evolved in a positive way since their earlier phases.
- However, according to the Andersons Centre’s independent research (a three part study, updated as the standards have evolved) looking at the viability of the standards payments on different farm types and sizes, the current payments will result in minimal uptake and represent a significant barrier to joining the SFI scheme.
- According to this research, introductory returns could be less than £3000 per year for small farms (factoring elements such as compliance risk). This does not reflect non-financial resources, such as impacts to mental health and wellbeing.
- In some cases, the research revealed that this could in fact diminish returns, and could result in mainly being an incentive for farmers who are already on a journey to sustainable farming, rather than incentivise those who need to make the shift and change their farming system.

- Concerns were also raised about the increasingly profitable wheat and oilseeds market, which will lead farmers to expand intensification of monocultures rather than joining the SFI scheme.
- It was suggested that upfront payment to motivate change could help make up for risks (such as compliance, admin and investment for return), however, there is no one dimensional answer to this due to a history of delayed payments and penalisation).

#### *Reviewing payment rates*

- It was suggested that in light of the current market volatility, consideration should be given to how frequently payment rates will be reviewed or a methodology could be developed in order to buffer volatility.
- A regular review would also be welcomed due to the potential impacts of trade deals and current geopolitical situations.

### Question 3: What advice and guidance are needed to implement the Soil Standards and support the SFI?

#### **DEFRA developments/ambitions:**

- In terms of advice, there will be no bespoke advisory service to support the SFI scheme (in the short term at least). The scheme is designed to be advice free, so there will not be a DEFRA led advice campaign to support the SFI delivery (as suggested by the January 2022 [House of Lords Report](#) on nature-based solutions for ELMs overall).
- However, DEFRA are looking into expanding the Catchment Sensitive Farming (CSF) programme to give complete coverage of England. There will be a role for the CSF programme to support the SFI scheme and promote uptake, particularly in those catchments where soil erosion and soil health are issues for water quality.
- There is also a very active commercial advisory sector, particularly for arable farmers, and there will be a role for this sector to support farmers with the uptake of the SFI soils standards.
- In terms of the guidance to accompany the soils standards, DEFRA has learnt a lot from the SFI pilots and there will now be a 'direct line of sight' between the actions being asked of farmers under the standards and the guidance that is published to support the delivery of these actions. This direct line will be available on the gov.co.uk website.
  - DEFRA trialled a range of 'technical advice notes' during the pilots which were not practical for farmers so these will not be carried forward.
  - This new guidance still requires finalising and testing with the industry, hence will now be available with the newest SFI updates but will follow shortly.
- DEFRA also recognises the need to increase the knowledge base of farmers. This is currently something being explored. For example, the woodland standard in the pilot currently has an element of training.

#### *Guidance in the SSMM scheme*

- The guidance currently being developed under the SSMM scheme draws on existing relevant guidance to create a standardised methodology for assessing soil structure, according to soil type and land use.
- This methodology will include how to assess subsoil, something most existing guidance fails to cover.
- It also provides SOM, visual assessment and earthworms benchmarks for farmers to judge their direction of travel against, using data from the Countryside Survey:

- Most guidance doesn't offer benchmarks other than the AHDB GREATsoils. The benchmarks developed for this project have very similar figures to the AHDB work.
- A new framework has been developed for both soil types and habitats, and the benchmarks are bespoke for every soil and habitat combination.
- The soil type groups developed build on the RB209 fertiliser manual and Cross Compliance to ensure farmers will be familiar with them.
- Whilst this scheme has begun by looking at the two soils standards habitats (arable and horticultural and improved grassland), this work has also had to complement the NCEA national monitoring programme and there are plans to expand the scheme to encompass more habitats (beyond agricultural land).
- The delivery team are currently waiting for industry feedback in terms of the guidance and there will hopefully be a direct line from the SFI soils standards to this guidance.

### **Comments/concerns raised by attendees:**

#### *What is needed in terms of guidance for soil management and soil assessment*

- [An audit by the SSA](#) of the available soils guidance in the UK revealed that there is a large amount of existing guidance available, published by different organisations, with different end goals, methodologies and metrics. This guidance is in need of simplification and focus on the soil standards outcomes.
- It was suggested that guidance specific to the soils standards should focus on addressing soil erosion, compaction and loss of SOM. Nutrients should be kept separate as they are part of nutrient management plans rather than soil management plans (required by the soils standards).
- Whilst it is currently up to the farmer how they wish to conduct a soil assessment (another requirement under the soils standards), it is important that there is clear signposting to available guidance and to have a default simple guidance made available to them, particularly for farmers who might be new to this. The process of finding relevant guidance must be simplified.
- Simple and easily available guidance will be key in ensuring high farmer uptake.
- Ideally, guidance on soil assessments should also link to management options.
- Guidance for both soil management and assessment should take a variety of forms to consider different learning methods i.e. videos, photos or farmer case studies.
- This guidance should allow for the identification of successful actions. This can incentivise farmers by demonstrating what it is they're doing that is making a difference.
- Many asked for clear graphics and diagrams to be provided, and if this is not possible on the gov.co.uk website, DEFRA could consider signposting to third party websites which provide such content relevant to the soils standards to facilitate the farmer journey. The SSA will explore potentially creating infographics and diagrams to help communicate the soils standards.

#### *What is needed in terms of support and advice*

- Many highlighted the importance of peer-to-peer networks offering a social learning aspect. The ability to learn from others in similar positions is important due to the many variables that impact soil health. DEFRA should consider ways of supporting and encouraging these networks.
- Peer-to-peer learning was also highlighted as being useful for advisors.
- In terms of advice, outputs will deliver different outcomes dependent on context i.e., if an output for achieving green cover is getting a cover crop in by the end of September, or early sowing of a winter cereal, in some years (particularly recently) this can result in soil erosion, compaction and loss of SOM.

- Flexibility will be critical, for example the ability to discuss with an officer whether the soil will be too wet for cover crop mid-October, and if so, leave it and opt for having stubble over winter.
- Farmers require both the support and the reassurance that they will not be penalised if they chose a different course that will ultimately be better for their soil.
- There is a role for Natural England's Land Management Advisors and Catchment Sensitive Farming Officers to provide that support on the ground and help farmers make corrections.
- Partnerships between these public bodies and organisations such as the AHDB and LEAF will also be important.
- Advice should also account for whether farmers own the land, or if a farmer is on a short-term tenancy arrangement. Tenant farmers will face limitations in terms of the changes they will be able to make.
- Concerns were raised with the ongoing reliance on the commercial advisory sector, particularly those with an economic bias towards selling certain products, which have resulted in adverse environmental outcomes. It was suggested that the government could take a similar stance to Denmark, who have put in place legislation to separate advice from product supply - this could help with the provision of impartial advice free from commercial sales bias.
- In terms of bespoke advice, could a future ambition be to bring together the three ELM schemes into one scheme, including the provision of bespoke advice on a whole farm plan? This could potentially help fill the gap of lack of advice around agroecological practices e.g. designing smart crop rotations, increasing functional agricultural biodiversity etc.

#### *Training and qualifications*

- Questions were raised as to whether DEFRA would consider offering financial incentives for farmers to do BASIS qualifications as part of the SFI soils standards or whether DEFRA could work with the Department for Education to try and facilitate this sort of training into the National Skills Fund.
- Others also raised that qualification and experience are important for the people providing the advice/support.

#### *Data availability to inform advice and an understanding of soil health*

- Questions were raised concerning the availability of soils data from the LandIS dataset held by Cranfield University (NATMAP). It was suggested that making this dataset publicly available will allow advisors to access it and give more targeted advice.
- However, it was also highlighted that NATMAP's granularity is not useful for advice and guidance for farmers or relevant at a field scale. Suitable groupings of the 753 soils series are required to simplify and make them relevant to policy making.
- It was also suggested that the current Cranfield dataset might no longer be fit for purpose if DEFRA want to develop a national soil health indicator that is meaningful, to monitor change over time (both function and delivery of ecosystems goods and services). Instead, we should be looking at dynamic soil properties and whether soils are delivering ecosystem benefits.
- It was highlighted that the Cranfield dataset had been instrumental to developing the current soil groups under the SSMM scheme (these soil groups are still under development and subject to stakeholder consultation). The LandIS Soilscape viewer is open access (view only) so this grouping could be available if helpful.
- It may also be useful for DEFRA to offer an online portal where farmers can update their data from the SFI scheme, which would then be linked to online systems that are already used by farms such as Gatekeeper, Muddy Boots, LEAF, Red Tractor.

#### Question 4: How will the SFI sit alongside regulations such as Farming Rules for Water (2018)?

##### **DEFRA developments/ambitions:**

- The objective of the three ELM schemes (including the SFI) is neither to replace BPS nor Cross Compliance. It is to deliver DEFRA's ambitions on the Government's 25 Year Environment Plan (25YEP) and Net Zero obligations.
- Whilst there is quite a strong reading across the Cross Compliance objectives and the 25YEP, it is not a direct one.
- BPS payments failed to deliver substantial environmental benefits according to DEFRA's analysis.
- Whilst the SFI needs to operate above the regulatory baseline, it is difficult to define this baseline (particularly for the Farming Rules for Water). DEFRA has grappled with this issue when designing the soils standards and believes it has reached the right balance with the standards being simple enough for farmers to engage with and understand, as well as being capable of delivering environmental benefits.
- DEFRA's ambition is to increase the ask of the SFI standards over time, starting with only two levels (introductory and intermediate) and currently looking at an advanced level – with the potential to increase the ask of the other two at a later stage if deemed necessary. The focus for now is on getting the first two levels right.
- DEFRA has no immediate plans to publish a summary of the regulatory baseline.
- There are regulations that will remain in place even after the phasing out of Cross Compliance, however DEFRA acknowledges that there is a lot out there and that it appears to be convoluted.
- One of the ambitions under the Soil Health Action Plan for England (SHAPE) will be to bring these regulations together (for soils specifically) and clearly show what is available and what obligations there are on farmers.
- There may need to be a regulatory review in due course, however, there are currently no immediate plans for one.

##### **Comments/concerns raised by attendees:**

###### *Understanding of the regulatory baseline*

- Concerns were raised about the lack of clarity around the regulatory baseline that will underpin the three ELM schemes. A review or summary of the regulatory baseline by DEFRA is believed to be a necessity to ensure the SFI soils standards deliver adequate improvements in soils health.
- This is also important if there is a desire in DEFRA to encourage blended finance and the private sector to drive some of these outcomes. Businesses will not pay for things that should be covered under the regulatory baseline. Hence, until we know what the baseline is it will be difficult to stimulate a market.

###### *Increasing the regulatory baseline with the SFI soils standards*

- It was suggested that the standards could be ratcheted up over time so that the introductory/intermediate actions become baseline expected practice in the future. Clarity around this could also help uptake i.e. 'get paid now while you can'.
- Another suggestion was made of potentially making farming a chartered profession as part of the long-term goal of a new normal by 2028. This could work with a new approach to regulation and assurance (simplification and light-touch enforcement), environmental land management (providing a new sustainability baseline if DEFRA isn't planning a new regulatory baseline, paying for added-value above a new sustainability baseline for SFI), a

new entrant scheme (to attract high calibre talent into the industry to address the challenge of balancing food and nature goals), and advice provision (negating the need for a broad advice offer).

#### *Concerns over the similarity of the soils standards with the regulatory baseline*

- Concerns were raised around the current overlaps between the SFI soils standards and the regulatory baseline, particularly Rule 6 of the Farming Rules for Water, which relates to soil erosion and green cover.
- It was highlighted that good regulations and enforcement can provide certainty for the industry, finance and investment, meeting government targets and demonstrating value for money. However, it is currently unclear how regulations and the SFI will sit alongside one another.
- With Cross Compliance ending in 2024, DEFRA has given no steer as to what will replace this and how it plans to engage the entire farming sector to meet the regulatory baseline. Whilst it was suggested that the SFI could at first be used as a tool to support this, it is important for the SFI standards to evolve beyond this and not be paying for what is required by law.
- Questions were raised as to whether Cross Compliance had delivered benefits for soil (and other environmental features) at a national level over the years and if so, whether these existing benefits have been quantified/assessed, from an environmental and value for money perspective, to ensure the SFI is designed to both safeguard these existing benefits and add net benefits on top as Cross Compliance is phased out.

#### *The Farming Rules for Water (FRfW) in relation to the SFI soils standards*

- It was explained that the FRfW were very close to Cross Compliance rules when it came to soil erosion. Specifically the '1ha rule' which was developed by DEFRA and the Environment Agency.
  - The rule determines that the presence of soil erosion greater than the size of a football pitch in any one field is an offence.
  - Erosion greater than 1ha includes runoff and gullies as well as soil wash (compaction resulting in silt at the bottom of the field). However, this is only an offence if it enters a water course (the rules were designed for water quality rather than soil health).
  - An offence will not always result in enforcement (the first time at least). Cases are dealt with on an individual basis and farmers will receive advice to help them decide on a direction of travel to mitigate future soil erosion.
  - If an offence occurs more than once, a stricter approach is opted for.
- Whilst there are overlaps, the difference between the FRfW and the SFI soils standards is that the SFI is about soil health in the round (SOM, etc.). The SFI soils standards will help comply with the Rules but are more about a direction of travel, whilst these rules are about one-off problems with the main objective being water quality.
- The % of green cover in both soils standards may not stop soil runoff due to compaction. However, it will help keep the soil in the field, so will contribute to stopping soil loss.
  - The % of green cover requires flexibility, as not every farmer will be able to achieve full cover (depending on the rotation). For example, winter vegetable production (i.e. carrots or brassicas) does not allow for green cover. There will be other ways to solve soil erosion so it is important that these farmers can still enter the scheme and implement the right action.
  - Strategic deployment of the green cover is also very important. Farmers could have as little as 30% in the right area and solve the problem in some cases. Landscape connectivity needs to be factored in (this could be in terms of landscape structure, subsoil, saturation etc.).

- Where the SFI soils standard text talks about “areas of high risk”, more nuance is needed in terms of landscape connectivity.
- A research paper *Muddy floods on the South Downs, southern England: Problem and responses* (Boardman et al 2003) on muddy runoff and erosion was recommended.
- It is important to note however that a higher % of green cover is favourable for soil benefits, particularly carbon sequestration.

Question 5: How will the SFI align with private schemes i.e. UK Farm Soil Carbon Code?

**DEFRA developments/ambitions:**

- A separate team within DEFRA is currently looking at blended finance, not just for soil carbon but other ecosystem services such as biodiversity offsetting. There will be no short-term DEFRA guidance on these private schemes as they are currently too new and complicated.
- Participation in the SFI scheme and the soils standards should not stop farmers engaging with whatever private sector scheme they wish to. However, the private schemes may have their own rules so it is up to farmers to check that they can satisfy any trading scheme they enter.
- The moorland assessment pilot for the moorland standard revealed that land ownership was an issue that needs attention – leading to questions around who is generating/monitoring and who owns the resource. For example, tenant farmers may be generating/monitoring carbon and may wish to enter a carbon trading scheme. However, landlords may consider the carbon as theirs. It will take time to understand how to overcome such issues.
- DEFRA is currently willing to allow markets to evolve and allow revenue stacking for farmers in the SFI schemes. In the longer term, the Treasury would like a marketplace to develop to deliver environment goods without government involvement. However, it was noted that the marketplace has failed to deliver for the environment to date.

**Comments/concerns raised by attendees:**

*The issue of additionality*

- Many voiced that if DEFRA allows stackable finance and sees a role for private finance, it is critical that government give a clear steer and guidance on how farmers should engage with the private market alongside SFI.
- It was highlighted that one of the main things the UK Farm Soil Carbon Code (UKFSCC) Consortium hears from farmers is their concern about being disqualified from private schemes by participating in the SFI. Investors and project managers have also voiced that the way the SFI scheme is currently drafted is problematic.
- This is due to the challenge of additionality. Definitions of additionality are vague and differ according to protocols but can be summarised as follows:
  - **Legal additionality.** Investors will not pay for interventions required by law.
  - **Financial additionality.** Investors will not pay for practices that would be funded anyway without this money being available. Practices being paid for cannot be financially attractive in the absence of private finance. This is why a DEFRA cost-benefit analysis is very important.
  - Other definitions of additionality relate to not paying for historical practices or practices commonly implemented across a region.
- For soil carbon projects funded by the voluntary carbon market, the number one rule is that these projects need to achieve carbon gains (increase soil carbon sequestration and/or

reduce direct GHG emissions from soil relating to the soil carbon project), underneath that there are sub-rules in relation to additionality.

- The UKFSCC Consortium have recently reviewed 12 different programmes from around the world (to be published in April/May) and revealed that these rules are dealt with differently depending on the programme.
  - The rules vary from being very prescriptive (difficult to implement in the UK) to very loose (project driven) – none have accounted for a significant public subsidy like the SFI scheme.
  - The UK is in an unusual situation and needs to find a way for private finance and public subsidy to come together. The UKFSCC Consortium has an arable pilot in the summer to understand how this can work.
- It was highlighted that the benefit of ensuring soil carbon projects are complementary to the soils standards is that such projects ensure long-term investment in soils to get improvement because they need to implement monitoring, reporting and verification.
- It was also noted that whilst additionality is an issue, there are other rules within existing programmes that are funding soil carbon projects through the voluntary carbon market that may conflict with public subsidies.
- Research on 'blue carbon' (marine) was cited as revealing that private schemes with looser/flexible rules are often the ones that get the most uptake (whether or not these are achieving the most environmental benefits) and end up being favoured over government schemes that have less flexibility.
- There is also a real risk of having different additionality requirements across different ecosystem services (woodland and peatland code) which adds complexity and transaction costs.

#### *Issues around land tenure*

- It was highlighted that ensuring blended finance agreements can be transferred between land occupiers will be very important as these are long term projects.
- The example of France was highlighted where there is a scheme for short term contracts that look for additive gains over sequential contracts.
- DEFRA could also provide reassurance that farmers will be rewarded for keeping records of their carbon and measuring their soils in due course.

#### *Rewarding historical usage*

- It is also important to reward farmers who have been improving and maintaining soil health prior to private investment (or the SFI scheme) and whilst some soils (peat) will have reached their carbon limit, investment will be required to maintain these carbon stocks.
  - To address this, many programmes have a 'look back period', so farmers can get credit for previous positive management.
- In terms of peat soils, as it stands, there is no private finance scheme for agricultural projects that will allow the inclusion of peat, so this is something that requires further research.
- There is research underway on a lowland peatland code happening at the moment. Whilst the soil and peat codes are separate, these will need to complement one another.

#### *Soil organic matter (SOM) vs soil carbon stocks*

- It is important to note that the SSMM scheme will be asking farmers to monitor their SOM and not soil carbon stocks. Whilst this data will overlap and can complement one another, the measuring methodologies will differ.
  - For example, whilst reduced tillage may show increases in SOM in topsoil, this will not indicate an increase in carbon stocks (but rather a redistribution of SOM).

Looking at stocks requires a different methodology so potentially a different way of financing it.

- However, it was highlighted that the challenge for additionality lies in the management implementation – the practices implemented to increase SOM will be the same as those for increasing carbon stocks.

#### *Achieving requirements and investment returns*

- Concerns were raised over the lack of consequences that would be faced by those who are being paid by private schemes but do not end up meeting the requirements. A penalty schedule could be made publicly available (noting that the RPA has not made these public for agri-environment schemes in the past).
  - The UKFSCC Consortium is currently looking at issues around permanence and the role of regulations to ensure carbon stays in the ground for an extended period.
  - It was noted that permanence was an issue beyond soils (e.g. hedges), but that for soils, land could be taken out of farming which will make it much easier to quantify improvement.
- It was also highlighted that in the context of private finance, there will have to be a rate of return on the investment which isn't the case for public investment. It is currently difficult to see from a private perspective where the rate of return will come from, and this is also an issue for biodiversity offsets and net gain – how can we generate a sufficiently large return to induce the private sector to enter into those public/private finance initiatives?

#### *Quantifying changes in soil carbon*

- The Floodplain Meadow Partnership (FMP) is currently building an evidence base on soil carbon in floodplains which can hopefully feed into the SSMM scheme. There is also a need to have more of a focus on species rich grasslands within the thinking of a carbon code.
- It was also highlighted that soil improvements are hard to quantify, and that short term agreements will not incentivise farmers, so it is important to think of how to reach the farms where the most improvement is needed when proving progress is hard.
- It was also argued that taking certain soils out of farming was easier to quantify, and that this represents a huge opportunity for farmers to sequester carbon on some of their land.

## **Workshop Participants**

### **DEFRA / SSA:**

Jonathan Marsden	Defra Sustainable Farming Incentive Team
Rachel Boulderstone	Defra Soils Policy Team
Harriet Cooper	Defra Soils Policy Team
Philippa Bennett	Defra Soils Policy team
Emanga Alobwede	Defra Soils and Peatland Policy Team
Ellen Fay	Sustainable Soils Alliance (SSA)
Matthew Orman	SSA
Neville Fay	SSA
Anicée Defrance	SSA
George Richmond	SSA

**Participants:**

Paul Newell-Price	ADAS
Anne Bhogal	ADAS
Amanda Bennett	AHDB
Richard Smith	Environment Agency
Nicola Robinson	Environment Agency
James Davies	Environment Agency
Alister Leake	Allerton Project, Game and Wildlife Conservation Trust
Cameron Hughes	CLA
Susan Twinning	CLA
David Fatscher	British Standards Institute
Helaina Black	James Hutton Institution
Graeme Willis	CPRE, The Countryside Charity
Sue Pritchard	Food, Farming, and Countryside Commission (FFCC)
Emily Linton	FFCC
David Exwood	National Farmers' Union (NFU)
Philippa Arnold	NFU
Rohit Kaushish	NFU
Bruno Gardner	NFU
Marcus Gilleard	National Trust
Bryn Thomas	Natural England
Matthew Shepherd	Natural England
Megan Perry	Sustainable Food Trust
Benjamin Tomkins	Sustainable Food Trust
Adrian Steele	Soil Association
Louise Paynton	Soil Association
Alex Mackaness	Soil Association
Vicki Hird	Sustain
James Woodward	Sustain
Alice Groom	RSPB
Rob Field	RSPB
Olivia Nelson	Floodplain Meadows Partnership
Stephen Briggs	Innovation for Agriculture
Vicky Robinson	LEAF
Elizabeth Stockdale	NIAB
William Blake	Plymouth University
Charlie Curtis	Progressive Agriculture
Christopher Price	Rare Breeds Survival Trust
Kyle Lischak	Client Earth
Iain Fraser	Kent University

Alex Adams	Rivers Trust
Elizabeth Cooke	Plantlife
Bridget Emmett	UK Centre for Ecology and Hydrology
James Elliot	Green Alliance
Jane Rickson	Cranfield University
Tom Stuart	WWF
Joe Llanos	The Wildlife Trusts
Hannah Conway	Wildlife and Countryside Link
Jonathan Leake	Sheffield University