SUSTAINABLE SOILS ALLIANCE

PRESS RELEASE

Soil failure leaving public in dark over environment, scientists warn
FOI reveals just 0.41% of total monitoring budget spent on soil

Failure to invest in monitoring soil in England is leaving the public in the dark about the true state of the environment – resulting in heightened flood risk, threats to food security and loss of biodiversity, leading scientists warn today.

The warning comes as a Freedom of Information request by the Sustainable Soils Alliance revealed that England is dedicating just 0.41% of its total environment monitoring spend on soil – despite recent government recognition that soil is one of the three vital pillars for life alongside air and water.

£60.5 million is spent on monitoring water quality and **£7.65 million** on air – but just **£283,780** on soil.

SSA director Ellen Fay said: *"This figure is staggering – but unfortunately not surprising.*

"It reflects the widespread underinvestment in soil health compared to air and water, despite soil's significant environmental importance - not least as a determinant of the health of these other two factors.

"We could be actually saving money – and the environment – by investing in soil monitoring because understanding soil would tell us a great deal about the health of our water and air too."

The underinvestment in soil monitoring means we do not have usable data for English soils, leading to continued government neglect of soil health with significant repercussions for our natural environment. With an estimated 2.2-2.9m tonnes of UK topsoil eroded each year, the nation is facing a soils crisis with implications for food security, urban settlements, wildlife and climate change mitigation. The impact of poorly managed soil was there for all to see with recent flooding events which healthy upland soil could have helped to mitigate. The SSA believes urgent action is required.

The FOI request was made shortly after the SSA argued unsuccessfully for soil health to be included among the Headline Indicators of environmental change of the 25 Year Plan for the Environment. The lack of data was a critical reason why soil health could not be considered as an indicator within the Plan.

SSA Science Panel lead and NERC Soil Security Programme Coordinator **Prof Chris Collins** said: "*There is a firm commitment to sustainable soil management by 2030 in the 25 Year Environment Plan and to improved soil health in the new Agriculture Bill. To ensure we reverse the degradation of our soils and return them to a healthy state nationally we need a long-term commitment to monitoring - both at farm and national level. Without a functioning monitoring programme we are being kept in the dark over the state of our soils.''*

SSA analysis based on the FOI response and desk research into Defra and agency budgets reveals the spend on monitoring each of the three indicators in the year 2017/18:

- **£60.5 million – Water:** The monitoring of fresh water falls within the remit of the Environment Agency (EA). EA spend on the integrated monitoring programme for water quality and quantity in England was £60.5M in 2017/18. This total includes marine monitoring as well as people, capital and business support costs.

Source: EA response to FOI request NR115635

- **£7.65 million – Air:** The monitoring of air falls within the remit of the EA and of Local Authorities. EA spend on monitoring air for regulatory and emergency purposes in England was £650,000 in 2017/18. In addition, £7M was spent operating Defra's UK-wide monitoring network. This includes capital costs.

  Source: EA response to FOI request NR115635

- **£283,780 – Soil:** Defra's [overall] spend on monitoring soils in England was £90,180. Environment Agency spend on soil / sediment analysis in England was £171,000 in 2017/18. The long-term monitoring of soil health falls mainly within the remit of Natural England (NE). NE's current soil health monitoring takes place under the Long-term Monitoring Network (LTMN) at a cost of approximately £22,600 each year. The LTMN regularly assesses, as a rolling programme, 20 soil plots each year across 4 national nature reserves (or similar sites) for a range of biological, chemical and physical parameters, with monitoring repeated every ~9 years. Costs include analysis and fieldwork (travel, accommodation etc.).

  Source: Desk research

Prof Bridget Emmett, Specialist Advisor to the 2016 Parliamentary Environmental Audit Committee (EAC) on Soil Health Inquiry, commented *"The Inquiry report highlighted the need for more focus on soil health in general and soil monitoring specifically. At the time, the Committee Chair described soil in England as a 'Cinderella' asset in comparison with air and water – and since then nothing has changed."*

The gap also puts the government in England out of step with much more ambitious monitoring programmes in Scotland and Wales and demonstrates that England is in no position to reach its target of sustainably managed soils by 2030.

Ellen Fay said: "*The UK used to be a world leader in monitoring our environment. However, in the past 10 years this has ground to a halt in England, leading to a very long and very disappointing gap – one that many argue correlates with a qualitative neglect of our soils over the same period.*

"National monitoring ensures we can track and report as a nation just as we do for other national assets such as air and water. There is a parallel need for monitoring on farm to enable farmers to track for themselves the impact of their management practices on their most valuable asset – the soil."

Notes/ links:

- Scotland's Soil Monitoring Action Plan (MAP) is ongoing - as part of the wider Environmental Monitoring Strategy. It was formally identified in the 2009 Scottish Soil Framework summary of actions and an Implementation Plan published in March 2013 - the same year as the Scottish Soil Framework Progress Report.

- Soil monitoring is included in Wales' Environment and Rural Affairs Monitoring and Modelling Programme (ERAMMP which follows on from the Glastir Monitoring and Evaluation Programme (GMEP)) which provides evidence of ongoing changes in Wales' Natural Resources through national scale integrated monitoring.

- These figures do not include the Land Use/Land Cover Area Frame Survey (LUCAS) project, which aims to monitor changes in the management and character of the land surface of the EU. This includes production of the first coherent pan-European physical and chemical topsoil database, which can serve as baseline information for an EU-wide harmonized soil monitoring but does not have resolution to provide robust national England level metrics.

- **For Defra and National Request Team responses to the FOI, please see the SSA webpage.**

- Natural England Long Term Monitoring Network Soils Protocol.

- **Prof Jonathan Leake**, SSA advisor, said: *"The development of national soil-quality monitoring is crucial. It has been done for air and water quality – and we need the same kind of long-term commitment for soils.*

  "To now national monitoring has been episodic, with no clear long-term funding commitments, and the sampling intensity in space (numbers of sites), depth (down the soil profile), time (frequency of measurements) and scope (types of measurements) has been inadequate. The Countryside Survey has provided some useful data (to 15 cm depth) but this is not sufficient to fully understand changes in soils over time that affect their full multifunctionality (range of variables, numbers of sites, subsoil effects etc.) There is no coordinated national data collection on soil erosion, and virtually no data on soil formation rates in UK agricultural soils.

  "There is an urgent need to develop a far more comprehensive national soil quality monitoring programme that allows us to understand whether key soil functions are being degraded, maintained or improved, and the overall balance of soil formation versus soil losses through erosion and peatland oxidation. The key functions of priority include organic carbon storage, infiltration / drainage rates, and water-storage capacity, linked to potential effects on climate change mitigation, water quality and flood risks."

The Sustainable Soils Alliance (SSA) was launched in 2017 to address the current crisis in our soils. Its aim is to restore soils to health within one generation by galvanising the communities of scientists, innovators, policymakers and land managers already active in this area and providing them with a sense of common purpose. We ultimately want to see the same focus, investment and attention for soil that other natural capital 'elements', water and air, have received in recent years.

For further information and accompanying images please contact ellen@sustainablesoils.org.

The SSA is online here and on twitter here.