

Environment Bill HoL Report Stage

Soils Briefing – Sept 2021

Intro

The Soil Association and Sustainable Soils Alliance, working closely with interested partner organisations, are urging Peers to support two key amendments to the Environment Bill, to ensure soil receives adequate priority within the Bill, following its place in the Agriculture Act. In its current form, there is no mention of soils within the Bill. Current priority areas rightly include:

- a) air quality;
- b) water;
- c) biodiversity;
- d) resource efficiency and waste reduction

these, whilst clearly critical, do not themselves necessarily generate positive outcomes for soil health. In contrast, an explicit focus on soils can deliver benefits across air quality, water and biodiversity as well as resource efficiency.

We, and allied organisations are calling for support of the following amendments:

- 1) Baroness Bennett of Manor Castle's amendment to Clause 1. This amendment will place soil as one of the Bill's priority areas. Although Ministers have averred that soils are implicit in the Bill as drafted, the lack of direct reference means that soils risk being an afterthought in environmental policy and this amendment would reverse that.
- 2) The Earl of Caithness' amendment after Clause 16. This amendment would place a duty on the Secretary of State to prepare a soils management strategy for England. This would reverse the currently fragmented approach to soil policy.

Rationale

Too often, soils are simply considered as an afterthought, as inert substrates or non-integral elements of the environment. But this is wrong. Soils directly underpin a vast array of ecosystems, play a crucial role in a stable food system whilst also being central to tackling the climate, nature and health emergencies.

In environmental terminology, ecosystems, when managed correctly, can provide regulating services¹ (a type of ecosystem service²) such as improving local air, water *and* soil quality. In turn, soils provide an array of ecosystem services for humans such as flood protection, carbon sequestration and biodiversity provision.

Soils are complex and variable, which makes them difficult to monitor and ultimately protect. A Freedom of Information request by the Sustainable Soils Alliance revealed that England is dedicating just 0.4% of its total environment monitoring spend on soil.³ Unlike for water and air, no single policy instrument exists to improve and protect them. Soils are suffering as a result

¹ [Regulating services | Ecosystem Services & Biodiversity \(ESB\) | Food and Agriculture Organization of the United Nations \(fao.org\)](#)

² Ecosystem Services defined as the direct and indirect contributions of ecosystems to human wellbeing.

³ [Huge knowledge gap over health of soil - BBC News](#)

Specific referencing in the Environment Bill would prioritise soils alongside air, water and biodiversity within environmental plans. Currently, soil health targets are not mandatory under the Bill.⁴ Without clear statutory targets, the government's commitment to all soils being sustainably managed by 2030, as stated in the 25 Year Environment Plan⁵, will lack legal enforceability. Placing soils as a priority in the Bill would pave the way to ensuring soil targets become enshrined *once monitoring allows for this*.

Unlike other integral constituents of the environment (including air and water) soil does not have its own comprehensive policy framework, or strategy, that outlines a clear vision and pathway for improvement. A soil strategy would ensure that the currently fragmented policy approach becomes joined up to deliver across climate, nature and health objectives.

Without this explicit approach we face the continued degradation of our soil health.

The challenge we face

In the UK, soil health varies across types, regions, geography and weather. No clear figure exists for the health of the UK's soils, but a 2020 review estimated that only 30-40% of Europe's soils are healthy.⁶ We can be confident that soil degradation remains a huge problem across the UK, and that urgent action is needed.

Average organic matter levels are declining

Organic matter is critical to soil health, biodiversity, productivity, and carbon storage. UK soils store an estimated 10 billion tonnes of carbon, dwarfing the 0.2 billion tonnes stored in UK vegetation. In 2013, soil carbon loss was estimated to amount to 4% of UK greenhouse gas emissions, higher than for many industrial and energy sources combined.⁷

Soil erosion remains a critical problem, and peat soils are widely damaged

A 2020 review of studies found that 16% of arable farms had soil erosion so high that it was a threat to future food production.⁸

Furthermore, around 8% of deep peat soils in the UK are being wasted, eroded or are bare.⁹ Upland peat soils are damaged by nitrogen deposition, overgrazing, drainage and burning. Lowland peat soils suffer rapid erosion from extraction and pump-drainage for cultivation. Many peat topsoils will disappear within decades unless they are rewetted so that peat formation can rapidly build them up again.

Soil life has suffered

Unlike terrestrial and aquatic wildlife, our soil life has been poorly monitored. However, we know that many of the chemicals applied to farm soils negatively affect soil microbial functions and biochemical

⁴ [19 August 2020: Environment Bill - environmental targets - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/19-august-2020-environment-bill-environmental-targets)

⁵ 16 May 2019: At a glance: summary of targets in our 25 year environment plan - GOV.UK (www.gov.uk)

⁶ Veerman et al (2020) 'Caring for soil is caring for life' (independent report written for the European Commission) <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/32d5d312-b689-11ea-bb7a-01aa75ed71a1>

⁷ Environmental Audit Committee – Inquiry into Soil Health, written submission to the Committee on Climate Change, 14th January 2016, <https://www.theccc.org.uk/wp-content/uploads/2016/01/CCC-Written-Submission-to-Environmental-Audit-Committee-Inquiry-into-Soil-Health.pdf>

⁸ [National-scale geodata describe widespread accelerated soil erosion - ScienceDirect](https://www.sciencedirect.com/science/article/pii/S0048969719300000)

⁹ Joint Nature Conservation Committee, 2011

processes, altering soil communities and diversity.¹⁰ When use of chemicals is combined with ploughing, reduced crop diversity, acidification from nitrogen applications and losses in organic matter (a key source of food), soil life is impacted. Research suggests that reduced soil life can affect crop growth, development and disease incidence, resulting in negative feedback loops where more agrochemicals are required.¹¹

Soils are part of the solution

Poor soil management releases greenhouse gases into the atmosphere, and these contribute to 21% of total UK agricultural emissions.¹² In contrast, healthy soils sequester carbon rather than releasing it, whilst also increasing resilience to floods and droughts, storing as much as 3,750 tonnes of water per hectare.¹³

Healthy living soils, full of abundant species, are critical to wildlife. Around 25% of biodiversity lives in our soils¹⁴, and whilst they may be hidden to us, a huge number of insects and animals are directly dependent on them for their food. Soil health affects how much food we can grow: a review of farm soil studies globally found that 16% had soils so damaged their food producing capacity spanned less than 100 years.¹⁵

Conclusion

Without healthy soils we don't have a healthy environment. We urge peers to support both amendments in the Environment Bill. We must ensure soils are placed centre stage of environmental policy rather than remaining at the periphery.

¹⁰ <https://onlinelibrary.wiley.com/doi/full/10.1111/ecog.05627>

¹¹ R. S. Meena et al. (2020) "Impact of agrochemicals on soil microbiota and management: A review," Land, vol. 9, no. 2. MDPI AG, doi: 10.3390/land9020034.

¹² <https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Agriculture-land-use-land-use-change-forestry.pdf>

¹³

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/709493/State_of_the_environment_water_quality_report.pdf

¹⁴ <http://www.fao.org/home/digital-reports/soil-biodiversity/en/>

¹⁵ <https://iopscience.iop.org/article/10.1088/1748-9326/aba2fd>

Annex

Amendments

1)

Baroness Bennett of Manor Castle's amendment In Clause 1

In Clause 1, Page 2, line 4

at end insert—

“(e)

soil health and quality.”

This amendment would place soil health and quality at the heart of the Bill, listing it as a priority area of focus.

2)

The Earl of Caithness' amendment After Clause 16 (Unnumbered)

After Clause 16

Insert the following new Clause—

Soil management strategy for England

- 1) The Secretary of State must prepare a soil management strategy for England.
- 2) The soil management strategy for England must set out Her Majesty's Government's objectives, priorities and policies for the sustainable management of soil in England during the period to which the strategy relates.
- 3) That period must not be shorter than 10 years.
- 4) The soil management strategy for England must include—
 - (a) a commitment to the long-term monitoring of soil quality and health,
 - (b) a definitive open access map identifying the different soil types,
 - (c) plans for the integration of soil management with environmental objectives such as climate mitigation, flood risk minimization and water quality measures and policies relating to food production, and
 - (d) targets for achieving the sustainable management of soil on Grade 1 and Grade 2 agricultural land (and other soils where necessary).
- 5) The Secretary of State must publish—
 - (a) an annual statement on progress against the soil management strategy for England, and
 - (b) after a period of three years beginning on the day this Act is passed, a review of the effectiveness of the soil management strategy for England including any necessary revisions of the strategy.
- 6) Before the end of the period to which the soil management strategy for England relates, the Secretary of State must prepare a new strategy for a new period that must not be shorter than 10 years.”