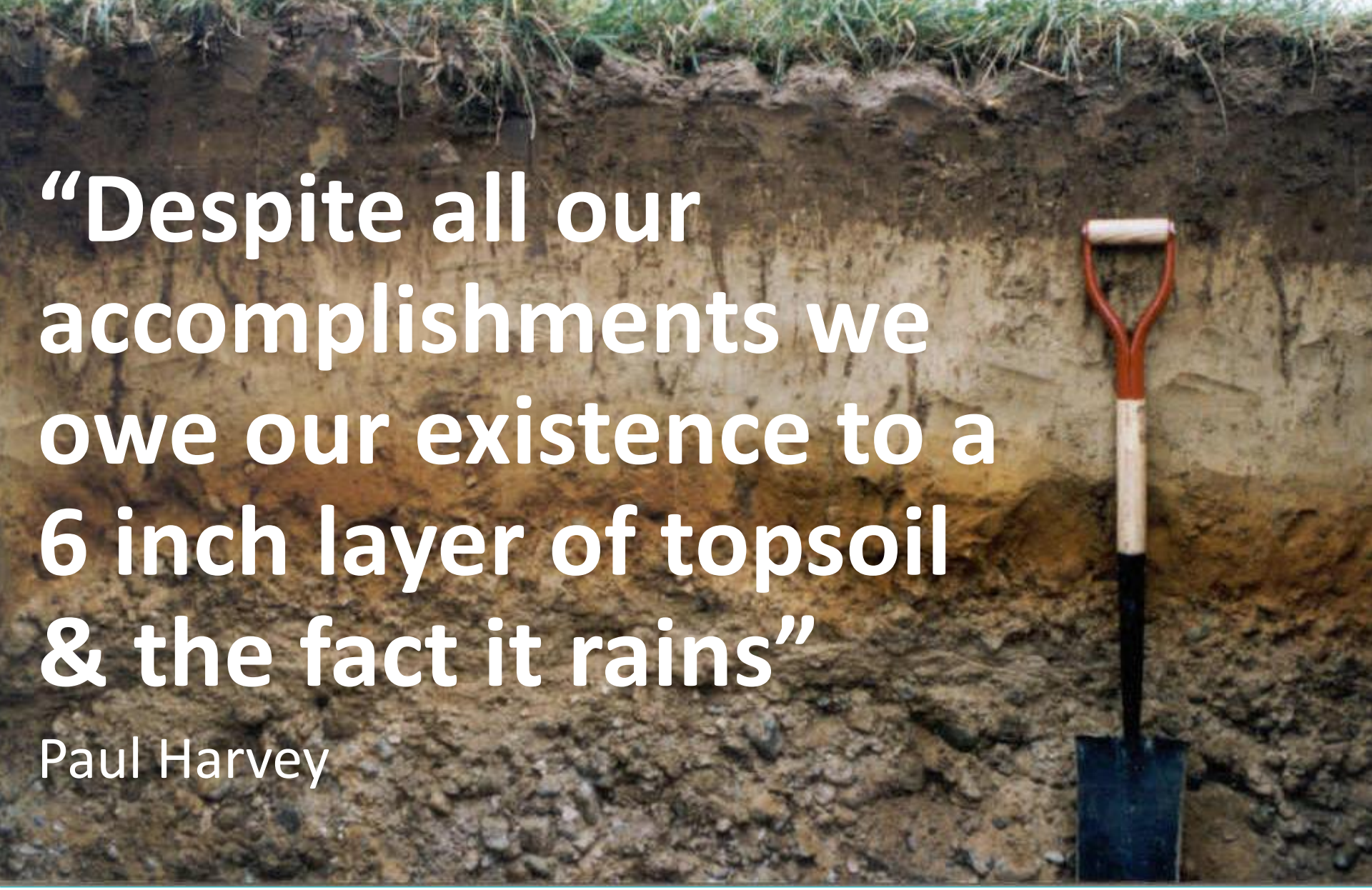
Healthy Soils & Nutrient Breakdown

Barry Bendall, The Rivers Trust



The Rivers Trust

TOPSOIL Interreg North Sea Region European Regional Development Fund EUROPEAN UNION

What is the Challenge?

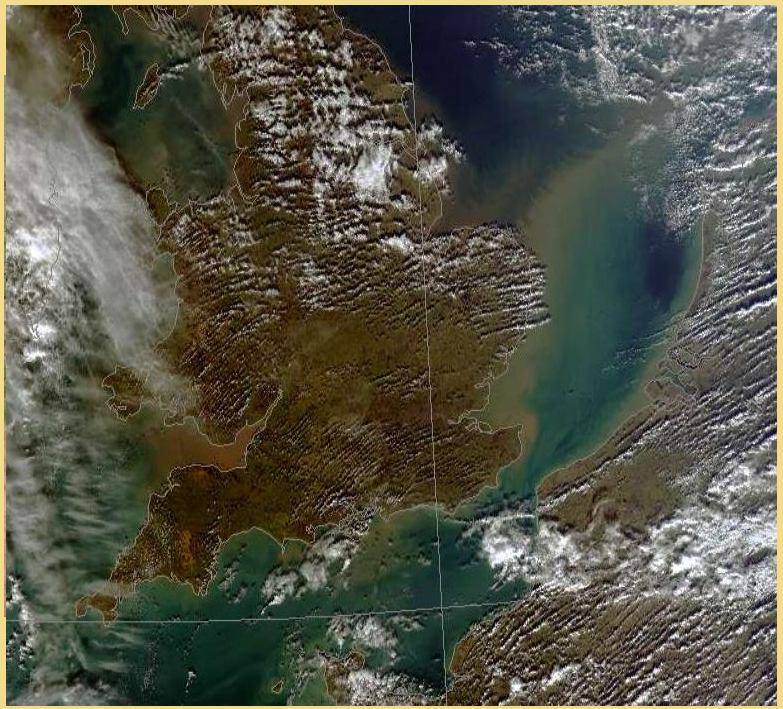
Current environmental and land management frameworks do not adequately promote, prioritise or incentivize good soil management.

Along with compounding factors such as market pressures, uneven regulatory baselines, variable enforcement, a lack of good quality independent advice and a culture of maximizing food production above all else, we are degrading our soils at an alarming rate.

What are the impacts?

Soil erosion

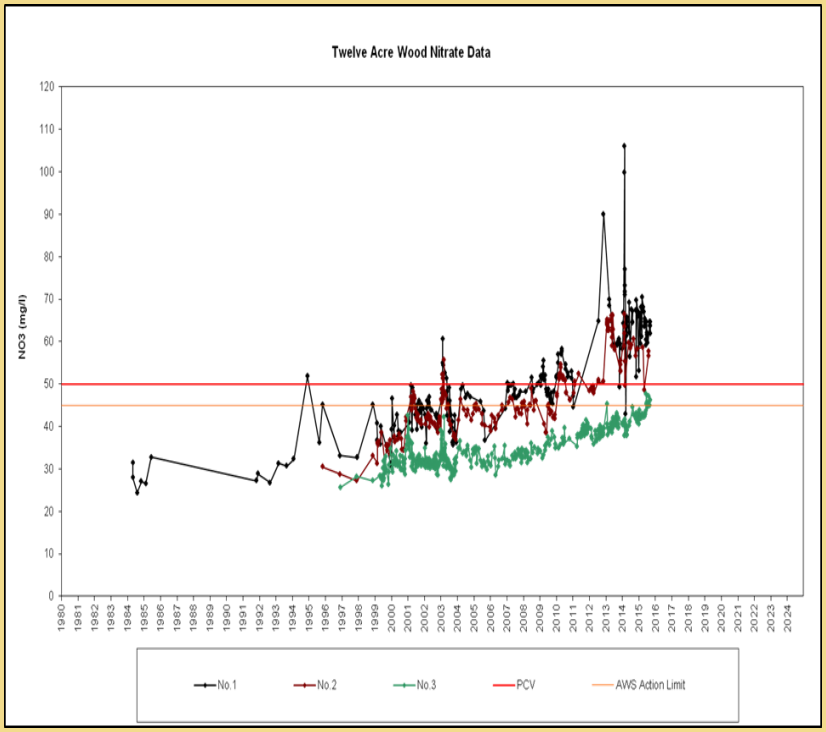
- Estimated loss of 2.9 million tonnes of soil per year (UK)
- Losing soil at a rate 10 times as fast as it is created
- 84% loss of fertile soils since 1850’s



What are the impacts?

Ecology & Water Quality

- Sediment bound nutrients and chemicals causing widespread impacts on surface waters and coastal areas
- Leaching of nutrients and chemicals into groundwater (30% of DK territory is vulnerable)



What are the impacts?

Reduced infiltration & water retention

- Reduced resilience to meet crop demands
- Reduced resilience to support river flows
- Reduced aquifer recharge

What are the impacts?

Flooding from compaction

- Increased flooding of homes and businesses estimated to cost UK £230M/year
- Damaged soils skewing flood risk models
- Exacerbated by climate change

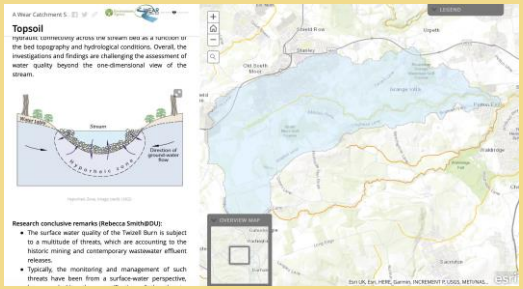
What are the impacts?

Loss of soil fertility and biodiversity

- Loss of nutrient recycling
- Reduction in organic matter and minerals – reducing carbon storage
- Potential to mitigate up to 89% of agri-emissions

Benefits of Topsoil project

- Increase collective understanding of soil and groundwater systems as key component of natural ecosystems
- Demonstrate and deliver measures to support sustainable soils and increase climate resilience
- Demonstrate the value of cross-sector partnerships and stakeholder involvement
- Transnational inspiration and knowledge exchange – especially at NSR scale



Key Recommendations

- Healthy soils are key to sustainable and resilient ecosystems and economy
- Joined up framework for delivering sustainable soil and water management – based on principles of ecosystem services and public goods
- Complex processes that require open & transparent collaboration to achieve shared understanding – challenging, but essential.
- Need for a fair and consistently applied regulatory baseline
- Need for improved soil management supported by appropriate incentive mechanisms, monitoring and good quality, impartial farm advice
- Review the need for an EU Soil Directive?