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First Soil Action Plan for England: 2004-2006 – Final Report

December 2007

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1.0 Introduction

1.1 The First Soil Action Plan for England was published in May 2004. This is the Final Report of progress in delivering the plan's 52 actions as at the end of December 2007. Interim annual reports were published in 2005 and 2006 and are available on the Defra website¹. This report is being published to coincide with the consultation on the draft Soil Strategy for England.

1.2 The aim of the Action Plan was to work with others, including policy makers, industry leaders and influencers across a wide spectrum of activities that impinge on soils, to ensure that England's soils were protected and managed to optimise their functions in keeping with the principles of sustainable development and on the basis of sound evidence.

1.3 The core of the Action Plan was devoted to things that could be achieved in the short-term and to building a consensus view of what was needed beyond this. A Soil Strategy for England is currently in preparation to take this forward.

2.0 Cross-Defra and cross-departmental working

2.1 Due to the cross-cutting nature of the Soil Action Plan, its delivery was dependent on working with others within Defra and across Government, including Communities and Local Government (formerly the Office of the Deputy Prime Minister), the Department for Education and Skills and the Department for Business, Enterprise and Regulatory Reform (formerly the Department of Trade and Industry). Working with delivery bodies, such as Natural England (formerly the Rural Development Service and English Nature), the Environment Agency, and the Rural Payments Agency was also essential to delivering the Action Plan.

2.2 Additionally, Natural England (formerly English Nature), English Heritage and the Environment Agency held responsibility for the progression of certain actions².

3.0 Progress

3.1 The First Soil Action Plan has achieved most of what it was designed to do. Most notably it has raised the profile of soil within the land management community and amongst Government policy makers and delivery agents. Consideration of the impact on soil of policies and activities are beginning to be the norm for a large number of stakeholders, especially in the agricultural sector. This is a vast improvement over the situation even four years ago where soils were still being taken largely for granted.

3.2 The table at Annex 1 details progress against each of the 52 actions included in the Action Plan over its three year timeframe. 24 actions were completed in full, two actions were postponed as they were awaiting international negotiations to

¹ <http://www.defra.gov.uk/environment/land/soil/sap/index.htm>

² Natural England (Actions 41-43); English Heritage (Actions 44-46); Environment Agency (Action 19).

commence³, and the progress of the remaining 26 actions were reviewed (as per their final milestones) and the way forward determined.

3.3 Significant achievements under the Soil Action Plan include:

- The introduction of soil protection measures into the CAP Single Payment Scheme (cross compliance conditions) (Action 1);
- The inclusion of soil protection options in the Environmental Stewardship scheme (Action 2);
- The development of the 'soil-net' education resource (Action 10);
- The development of indicators of soil quality (Action 11);
- The addition of soil considerations into planning policy (Action 14).

3.4 Some areas of the Action Plan did not progress as quickly as anticipated, in particular those requiring a new evidence base to be established (e.g. on sustainable soil management in the construction sector) or those relating to EU negotiations (e.g. publication of the Soil Thematic Strategy).

4.0 Stakeholder engagement

4.1 The Soil Action Plan Advisory Forum formed the main stakeholder engagement mechanism for the Action Plan. The Advisory Forum consisted of c. 35 members from a range of organisations, including Defra, Other Government Departments and Agencies, agricultural industry bodies, environmental Non-Governmental bodies and research establishments (see Annex 2).

4.2 Bi-annual Advisory Forum meetings, monthly electronic newsletters, and the publication of relevant papers and project reports on the soils part of the Defra website were the main tools for keeping our stakeholders updated on progress. Advisory Forum members also used the newsletter to provide updates of their own progress in helping us to deliver actions to better protect England's soils.

4.3 At the mid-point of the Action Plan (after the November 2005 Advisory Forum meeting) a short questionnaire was sent to all Advisory Forum members to generate feedback on their satisfaction or otherwise with their involvement in the Advisory Forum as well as wider Soils Policy Team business and approach. Overall results were encouraging; the majority of respondents were either *Very Satisfied* or *Satisfied* with their involvement with relation to the Advisory Forum, and most found Advisory Forum meetings either *Very Informative* or *Informative*. The monthly newsletter of progress was highly regarded and interaction of the Soils Policy Team in relation to a range of working practices was generally judged as *Average* or better.

5.0 Next steps

5.1 The Action Plan has provided us with a good foundation but there is still much to be done to improve the management of soils to deliver a wide range of benefits to society. To succeed the First Soil Action Plan for England, a Soil Strategy for

³ Proposed revisions to the Sewage Sludge Directive and a proposed Biowaste Directive.

England is being developed and is being published alongside this report as a consultation document.

Annex 1: Progress against the First Soil Action Plan for England

	Action	Status ⁴	Progress	Way forward
1	Defra will implement the CAP cross compliance conditions in such a way as to foster basic good management of soils in the farming industry	C	Good Agricultural and Environmental Conditions 1-4 cover soil protection. The Soil Protection Review was published in 2005. Farmers are required to complete this by 1 September (of the year of entry into the scheme, starting 2006) and implement it from 1 January the following year. The template must be reviewed on an (at least) annual basis. Since January 2007, farmers have had to implement by putting in place measures they have selected. Monitoring of the impact of cross compliance will be taken forward under the Soil Strategy for England.	
2	Defra will encourage better management of agricultural soils that goes beyond the requirements of the Single Payment, through the provision of incentives under the Agri-Environment Scheme	C	Soil options are available in both Entry and Higher Level Stewardship. Uptake of the ELS options is being used as an SFFS indicator . The Soil Management Plan is no longer available for new agreement holders as the SPR has now been introduced. Monitoring of the impact of Environmental Stewardship on soil protection as well as developing new options where necessary and seeking to ensure these options are effective and targeted will be taken forward under the Soil Strategy for England.	
3	Defra will develop a strategy for providing farmers and other land managers with practical information and advice for building good soil management into overall farm planning	C	In addition to the cross compliance soil guidance , advisory material and guidance documents have been produced and are being distributed as part of a number of Defra advice contracts. Various training courses and workshops have been developed and funded. A soils module is included in the Defra Whole Farm Approach.	
4	Defra will engage with BERR (formerly DTI) and other professional bodies to raise standards of sustainable construction practices, and disseminate knowledge throughout the development and construction sectors	G	An evidence base has been developed for the management of soils in the built environment. Work has been undertaken with expert stakeholders to revise the British Standard for topsoil . Work has also been undertaken with stakeholders to	Work will continue with various partners and stakeholders to take these strands forward as part of the built environment priority work area in the Soil Strategy for England.

⁴ C=complete, G=on track, P=postponed (waiting for negotiations to commence)

	Action	Status ⁴	Progress	Way forward
			develop a joint Defra/BERR code of practice for sustainable use of soils on construction sites.	
5	Defra will engage with key stakeholders across Government Departments and Agencies to seek to deliver improved Training/Continuing Professional Development programmes for Defra-funded conservation and environmental advisors that incorporate soil function and protection techniques	C	Various courses have been developed and provided to Defra-funded conservation and environmental advisors (e.g. training for Catchment Sensitive Farming Officers, cross compliance inspectors).	
6	Defra will agree a framework with other departments to help ensure that Government's wider policies take proper account of their impacts on soils and recognise soil as a strategic national resource	G	Continued engagement with a wide range of Government stakeholders on various soil issues, in particular negotiation of the proposed EU Soil Framework Directive, also soils in the built environment and soils education.	Work will continue with various Government stakeholders to take forward this work under the Soil Strategy for England.
7	Defra will work during the Spending Review 2004 process to embed soil protection into it's forward strategies and, if appropriate, targets on natural resource protection	C	Resources were secured during the Spending Review 2004 process to take forward the Soil Action Plan and other policy areas that have an impact on soil. Soil protection has been embedded into a range of strategies including the Sustainable Farming and Food Strategy (SFFS) for which there is a soil headline indicator .	
8	Defra will ensure that, during the process of reconstructing the Government's rural delivery landscape in response to the Haskins report, all new and reconstructed agencies concerned with land management issues have regard to the proper management of soils alongside other requirements	C	Both Natural England and the Environment Agency recognise the need to protect soils and this is built into both organisations Corporate Plans.	

	Action	Status ⁴	Progress	Way forward
9	Defra will work with the European Commission, UK stakeholders and other member states to try and ensure that outcomes of the EU Soil Thematic Strategy are appropriate to UK soils and the pressures on them	G	The Soil Thematic Strategy was adopted in September 2006 with proposals for a Soil Framework Directive . We worked with the Commission, MEPs, other Member States and UK stakeholders to seek to ensure that the Directive would be acceptable to the UK. By December 2007, despite important improvements it remained unacceptable to the UK and insufficient Member States were able to support the Directive for it to proceed.	No further work anticipated unless the Directive is to return to the agenda.
10	Defra will work with stakeholders to develop a programme of education and awareness of soil issues	C	A number of educational resources have been developed, including Soil-Net , a free web-based educational resource for Key Stages 1-4 (ages 5-16). Soil-Net will continue to be promoted. Sector specific awareness raising is covered under other Actions, e.g. Actions 3 and 4.	
11	Defra will work with stakeholders to identify indicators which should be built into a national soil monitoring scheme, aiming to develop a scheme meeting national and European requirements	G	A list of indicators has been identified, including an SFFS headline indicator on soil organic matter and a range of biological indicators . A UK soil monitoring scheme is being designed. This work is being overseen by the UK Soil Indicators Consortium .	Work will continue under the evidence work area of the Soil Strategy for England.
12	Defra will review its soil research programme in light of the recently completed UK Soils Research Audit, and issues identified in this plan, to ensure that resources are focussed on the most urgent questions	C	Priorities for the 2005-08 Soil Protection research programme have been established. Approved research objectives are available on the Defra website. Work will continue under the evidence work area of the Soil Strategy for England.	
13	Defra will work with other Government	C	Work has been undertaken to identify data requirements and holdings across	

	Action	Status ⁴	Progress	Way forward
	Departments and Agencies (including the Devolved Administrations), and other soil data users, to develop and provide better access to information on soils		Government and to provide information on how to access this data . Soilscapes has been developed, allowing users to determine the general soil type at any location in England and Wales. The Soils Site Reporter has also been developed, which produces site-specific soil information with maps and soil descriptions for a small fee.	
14	Defra will consider with CLG and Local Government organisations how to increase understanding of soil issues throughout the Regional and Local Government structure	G	Consideration of soils is now included in a range of planning policy statements . A toolkit for planners is being developed to aid in their interpretation of what this consideration means. Advice is provided to Local Authorities via the new Environmental Advisory Service website.	Work will continue with various partners and stakeholders to take these strands forward as part of the built environment priority work area in the Soil Strategy for England. There are also links with the work being carried out under Action 4.
15	Defra will work with CLG to clarify the use of existing mechanisms, including the Building Regulations, to ensure proper consideration of soil implications during the planning and development process		This Action is being taken forward in conjunction with Action 14. See Action 14 for progress.	
16	Defra will work with CLG to ensure that soil issues are taken into account, where appropriate, in the creation and implementation of plans at both the regional and local level under the proposed new planning system		This Action is being taken forward in conjunction with Action 14. See Action 14 for progress.	

	Action	Status ⁴	Progress	Way forward
17	Defra and the Environment Agency will commission work to assess routes of contamination by heavy metals and persistent organic compounds to soils, and to examine the feasibility of new criteria to protect the long term functioning of soils	G	ADAS were commissioned to undertake a review of sources and impacts of past, current and future contamination of soil . Work has begun to assess the results and implications of this for policy and to determine the way forward.	Work will continue under the agriculture and forestry priority work area of the Soil Strategy for England.
18	Defra will work with partners to examine results from the inventory of metal inputs to soils, to ensure that necessary controls are in place to retain the long term functioning of soils	This Action is being taken forward in conjunction with Action 17. See Action 17 for progress.		
19	The Environment Agency, Defra and partners will continue to develop soil guideline values for protection of human health from contaminants in soil	G	A number of new Soil Guideline Values have been developed. Defra has published a consultation document on the way forward with Soil Guideline Values .	Work will continue under the built environment priority work area of the Soil Strategy for England.
20	Defra will seek to negotiate the proposed revisions to the Sewage Sludge Directive to ensure that controls on the application of sludge to land recognise potential benefits, while ensuring that sludge does not impair the long term functioning of soils	P	The Soil Thematic Strategy (adopted September 2006) stated that the Commission would review the Sewage Sludge Directive in 2007. Work will be undertaken under the recycling of organic materials to land priority work area of the Soil Strategy for England.	

	Action	Status ⁴	Progress	Way forward
21	Defra will seek, during negotiations on the proposed Bio-Waste Directive, to agree arrangements which encourage the return of organic material to the soil	P	The European Commission is no longer considering a separate Biowaste Directive. The published text of the Waste and Recycling Thematic Strategy suggests that the Commission is looking to develop a technical standard for biowaste. Work will be undertaken under the recycling of organic materials to land priority work area of the Soil Strategy for England.	
22	Defra, the Environment Agency and partners will work to deliver changes to Waste Management Licensing Regulations to ensure that applications of licensed and exempt wastes does not impair long-term soils functions	C	Changes to the Waste Management Licensing Regulations came into force on 1 July 2005.	
23	Defra will work with partners to ensure the effective enforcement of regulations on permissible metal concentrations in animal feeds	C	The Food Standards Agency are taking steps to reduce metal concentrations in animal feeds as well as regulating the enforcement of these regulations as demonstrated by both the Feeding Stuffs (England) Regulations 2005 and the Feed (Hygiene and Enforcement) (England) Regulations 2005.	
24	Defra will consider whether controls on the use of metal-containing veterinary medicines are appropriate to balance environmental and livestock interests and how they are enforced	This Action is being taken forward in conjunction with Action 17. See Action 17 for progress.		
25	Defra and the Environment Agency will review and evaluate the impacts of contaminants mobilised and transported by floodwaters, on diffuse pollution of soils	This Action is being taken forward in conjunction with Action 17. See Action 17 for progress.		
26	Defra will ensure that appropriate measures are in place or in train to achieve the requirements for 2010 as set out in the National Emissions Ceilings	C	Following an analysis of the effectiveness of the Air Quality Strategy in 2005, Defra and the Devolved Administrations have consulted on options for further improvements in air quality .	

	Action	Status ⁴	Progress	Way forward
	Directive and Gothenburg Protocol	P	International review of the Directive/Protocol has yet to take place. Work will be undertaken under the agriculture and forestry priority work area of the Soil Strategy for England.	
27	Defra, the Environment Agency and partners will seek to explore the need for technical material to assist in considering the impact on and benefits to soil functional capacity from remediation	C	A report on the impacts on soil functions of different remedial techniques, and the impacts of current regulations on these, has been developed and will be used by the Environment Agency when considering developing further guidance.	
28	Defra will work with partners to examine current data sources of the burden on soil resource from diffuse sources; and assess the implications of the results for policy and research	This Action is being taken forward in conjunction with Action 17. See Action 17 for progress.		
29	Defra will work with the veterinary medicines industry and other partners to gain better understanding of the potential impacts of veterinary products on soil biodiversity	C	Defra has undertaken a review of the literature on the potential impacts of veterinary products and has identified some areas for future consideration.	
30	UKCIP and Defra will establish a scoping study of the impacts of climate change on soil types in England	C	This scoping study was undertaken by Cranfield University.	
31	Following on from Action 30, Defra and partners will undertake further research (including development of tools to manage the risks to soils from climate change)	G	Priorities for further research on soil carbon have been identified via a series of workshops and work will be placed in 2007/2008. A monitoring network has been designed to assess the impact of climate change (including soil).	Work will continue under the agriculture and forestry, soil carbon and evidence work areas of the Soil Strategy for England.
32	Defra will review the Code of Good Agricultural Practice (COGAP) for the	G	A review of the soil code was completed in 2004 and followed by a	The integrated code will be published in 2008.

	Action	Status ⁴	Progress	Way forward
	protection of soil		review of all of the codes. A draft integrated code has been produced and was published as a consultation document in 2007.	
33	Defra will work with the farming industry to examine current and/or novel means of encouraging voluntary change in soil management	C	Defra has worked with stakeholders to develop messages and guidance to farmers. These have been promoted to encourage voluntary change in soil management beyond that which is required under the Single Payment Scheme. Further work will be undertaken under the agriculture and forestry priority work area of the Soil Strategy for England.	
34	Defra will work with partners to fund further research on the relationships between farm soil management practice, physical characteristics, functions of soils and subsequent impacts	G	There is ongoing research in this area, for example, projects are being undertaken on sludge to land; impact of organic carbon returns to soil quality; and documenting soil erosion rates.	Work will continue under the evidence work areas of the Soil Strategy for England.
35	With the Forestry Commission, Defra will examine the scope for inclusion of soil issues in the English Woodland Grant Scheme	C	All work funded under the England Woodland Grant Scheme must be carried out in such a way that meets the UK Forestry Standard . The 2004 Standard takes into account the prime aspects of sustainable forest management: soil, water, air, production, biological diversity, workforce, communities, heritage and landscapes. Where proposals under EWGS are considered likely to have an environmental impact, prior consent is required or if above a certain threshold an Environmental Impact Assessment must be undertaken which includes consideration of potential soil pollution and likely significant impacts on soil.	
36	Defra will work with partners to re-examine current soil management advice, to take account of the potential impacts of inappropriate management on flooding, aquifer recharge and water and air quality		This Action is being taken forward in conjunction with Action 32. See Action 32 for progress.	

	Action	Status ⁴	Progress	Way forward
37	Defra will complete research, and take account of results, to provide further understanding of the role that land and soil management might play in flood management at water catchment level	C	A review of impacts of rural land use and management on flood generation has been completed. The delivery plan taking forward the Government strategy 'Making space for water' includes a project to investigate the role that land managers can play in reducing flood risk at the local scale, identifying land management practices, how they can be delivered and what other public benefits can be provided. This work will be continued under the agriculture and forestry priority work area of the Soil Strategy for England.	
38	Defra will research the capacity of different soils to attenuate substances in relation to the protection of groundwater	C	A gap analysis of research in this area has been undertaken and it has been determined that no further research is required at this time.	
39	Defra will work with the Environment Agency and other partners to continue to examine a range of policy options for the control of sediment and soil-bound nutrient losses to water	C	The Catchment Sensitive Farming Programme is aimed at reducing diffuse water pollution from agriculture (phosphorus, faecal indicator organisms, sediment and nitrates) in England to meet Water Framework Directive requirements. Measures are being developed, including the promotion of good soil structure to maximise infiltration of rainfall and minimise run-off and erosion and protecting watercourses from sedimentation. A 2 year project, running alongside the CSF programme and managed by Natural England and involving GY Associates and Rothamsted Research, is currently ongoing to develop agricultural organic matter management advice. Work will continue under the agriculture and forestry priority work area of the Soil Strategy for England.	
40	Defra and partners will review and synthesise the published material on links between biodiversity, pollution, contamination and land management, to identify an initial list of biological and biochemical indicators of functional diversity	This Action is being taken forward in conjunction with Action 11. See Action 11 for progress.		
41	Defra will consider with Natural England (previously English Nature) and other partners the benefits which might arise from the establishment of a national	G	This is being considered as part of wider research on site monitoring network proposals. Natural England is also supporting phase 3 of Scottish	Natural England will continue to lead on this work, although soil biodiversity is not highlighted as a priority area under the Soil Strategy for England.

	Action	Status ⁴	Progress	Way forward
	series of benchmark sites for soil biodiversity		Natural Heritage's project on soil conservation values.	
42	English Nature will prepare a position statement on the role of soil management and protection within statutory nature conservation sites	C	English Nature's Council discussed and approved a paper on soils and nature conservation at its June 2005 meeting. During the interim period before the formation of Natural England, English Nature stopped publishing formal position statements and it was agreed that the agreed Council paper would complete this Action.	
43	English Nature will publish guidance on the use of soil information in the restoration of wildlife and wildlife habitats	C	An English Nature Research Report (ENRR712: Guidance on understanding and managing soils for habitat restoration projects) has been produced. It is intended that a glossy overview leaflet of this will be made available.	
44	English Heritage will monitor the state of the landscape and historic environment and, where needed, develop new indicators	G	The Defra/English Heritage project on assessing potential soil indicators for monitoring the preservation of cultural heritage function has reported.	English Heritage will continue to lead on this work, although cultural heritage is not highlighted as a priority area under the Soil Strategy for England.
45	English Heritage will research into the threats and mechanisms of loss and degradation of soils supporting historic landscapes	G	A revised draft of the English Heritage Research strategy for the preservation of archaeology <i>in situ</i> is in preparation.	English Heritage will continue to lead on this work, although cultural heritage is not highlighted as a priority area under the Soil Strategy for England.
46	English Heritage will improve understanding of soils and the historic landscape through research on the importance of the landscape and historic environment to the economy, and to quality of life	G	Plans for research in this area are under active discussion following the appointment of a new Head of Social and Economic Research.	English Heritage will continue to lead on this work, although cultural heritage is not highlighted as a priority area under the Soil Strategy for England.
47	Defra will promote with industry better understanding of the potential benefits to sustainable construction through specific tests and British Standards for soil use	This Action is being taken forward in conjunction with Action 4. See Action 4 for progress.		
48	Defra will continue to support the	G	An agreed Quality Protocol on	Work will continue under the recycling

	Action	Status ⁴	Progress	Way forward
	development of recycling and composting to provide alternative growing material and soil conditioners to peat		Compost was published in March 2007.	of organic materials to land priority work area of the Soil Strategy for England.
49	Defra will examine the practicality of introducing and monitoring a programme to integrate minerals and waste policies which will increase the recycling of materials for re-use or for restoration and so reduce the need for 'wet' or low standard restorations due to lack of fill material.	C	The integration of these two policy areas was examined and judged not to be practical. However, increasing amounts of quality compost (see Action 48) should be available for restoration projects where 'wet' restoration is not the preferred option in order to meet biodiversity objectives.	
50	Defra will consult the Environment Agency and local planning authorities to improve monitoring of use of soils in relation to built development, compliance with soil protection conditions of planning permissions, and for reducing off-site impacts	This Action is being taken forward in conjunction with Actions 4 and 14. See these Actions for progress.		
51	Defra will continue to work closely with DCLG, minerals planning authorities, and the industry, to promote and develop practical guidance on minerals site restorations and aftercare	C	Rural Development Service (now Natural England) guidance on site restoration has been sent to mineral planning authorities.	
52	The Defra Soils Team will measure and report progress on all actions	G	As well as providing twice yearly progress reports, informal monthly newsletters of progress are produced. Interim Annual Reports for the Soil Action Plan were published in 2005 and 2006.	The Soil Strategy for England is being developed, taking stock of progress under the Action Plan.

Annex 2: Soil Action Plan Advisory Forum member organisations

- ADAS
- Biotechnology and Biological Services Research Council
- British Society of Soil Science
- Campaign to Protect Rural England
- Centre for Ecology and Hydrology
- Chartered Institute of Water and Environmental Management
- CIRIA
- Communities and Local Government
- Country Land and Business Association
- English Heritage
- Environment Agency
- Forest Research
- Highways Agency
- Institute of Grassland and Environmental Research
- Linking Environment And Farming
- National Farmers Union
- National Soil Resources Institute
- National Trust
- Natural England
- Natural Environment Research Council
- Reading University (Soil Science Department)
- Rothamsted Research
- Royal Society for the Protection of Birds
- Soil Association