

SEPA Position Statement on Planning and Soils

This document is a statement of SEPA's role and policy position on soils relative to land use planning. In this position statement we clarify how we intend to engage with the land use planning system on soil related issues to achieve an effective interface with our regulatory and advisory remit and to support the priorities of the Scottish Government including climate change.

1.1 Introduction

Soil is a key part of our environment and has major implications for air and water quality as well as our climate, biodiversity and economy. Soils perform a wide range of essential environmental, social and economic functions, such as growing food, forestry, controlling the quality and quantity of water flow, providing habitats and sustaining biodiversity and storing carbon. Soil quality is defined as the ability of soils to carry out these functions¹.

Ensuring that soils are in a good state to deliver these essential functions is vital for the sustainability of Scotland's environment and economy. This is particularly important as soil is essentially a non-renewable resource that plays an important role in supporting sustainable development. [The Scottish Soil Framework](#) (Scottish Government, 2009) recognises a need for policy integration to ensure soils are adequately protected.

The effective management of soils is integral to the delivery of a wide range of Scottish Government objectives relating to:

- mitigation of and adaptation to climate change;
- the rural economy;
- sustainable flood management;
- ecosystem services;
- food security; and,
- health and well being.

The [2011 State of Scotland's Soil Report](#) and recent research² found that climate change and changes to land use management, including development, are the most significant pressures acting on Scottish soils. The impacts of these pressures on soil functionality are usually difficult to reverse. A summary of the main pressures and their impact on soil functionality are provided in Appendix 1.

1.2 Purpose of our involvement

Our role in the modernised planning system is to help enable good development in the right place and of the right design and quality, having regard to national planning policy³, so that the environment is suitably protected and enhanced.

Scottish Ministers consider development plans to be central to the success of the modernised planning system and we share that view. We have reprioritised our Planning Service to ensure that we are well placed to engage early in the plan preparation process. We are also committed to engaging at an early stage, through pre-application engagement,

¹ See Appendix 1 for a list of soil functions identified in the Scottish Soils Framework.

² Rural Land use study (2009), RERAD WP 2005-20011.

³ In particular, [Scottish Planning Policy \(2010\)](#) (paragraphs 37,42 97, 133 and 230) and the [National Planning Framework 2](#) (paragraphs 30,49, 80 and considerations for National Developments).

with key stakeholders for all major developments including those that may impact upon soil functionality.

1.3 Scottish context

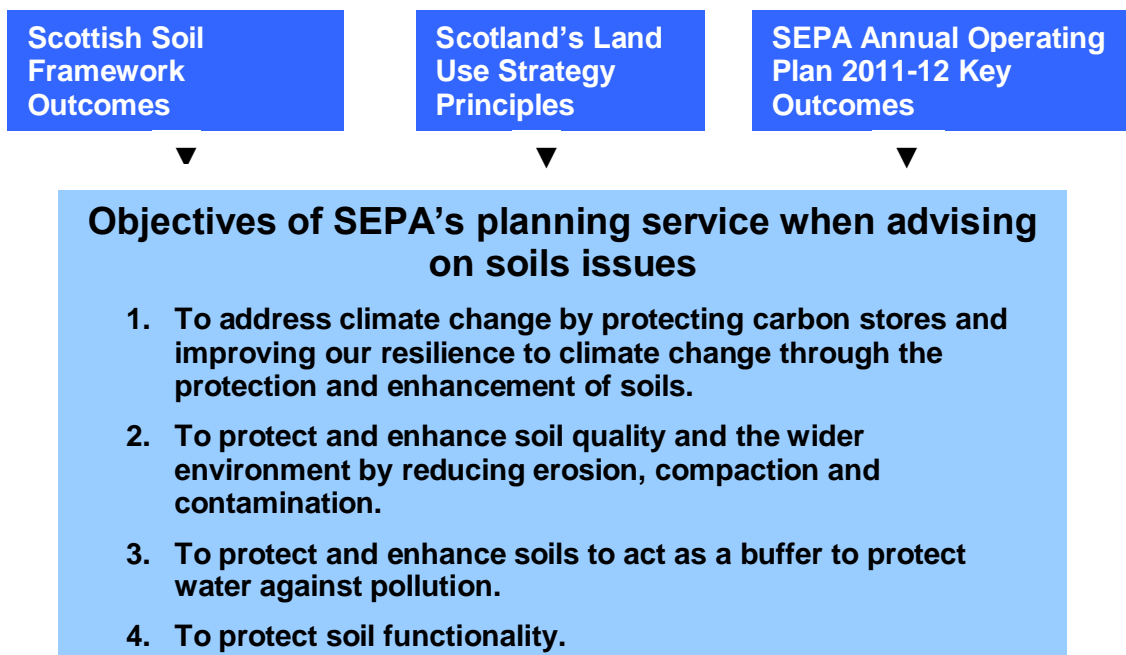
The Scottish Government has recently provided a strong policy direction for the protection of soil functionality within Scotland through the publication of [The Scottish Soil Framework](#) (2009) and Scotland's [Land Use Strategy](#) (2011).

[The Scottish Soil Framework](#) describes key pressures on soils, relevant policies to combat those threats, and identifies the future focus for soil protection, key soil outcomes, and actions across a range of sectors. The main aim of the Framework is to promote the sustainable management and protection of soils consistent with the economic, social and environmental needs of Scotland. Thirteen soil outcomes (see Appendix 2) are identified which are designed to promote the sustainable management and protection of soils in keeping with the economic, social and environmental needs of Scotland. The outcomes are supported by actions across a range of stakeholders including SEPA.

The development of Scotland's [Land Use Strategy](#) is a key commitment of Section 57 of the [Climate Change \(Scotland\) Act 2009](#). The Strategy for the first time takes a strategic approach to the challenges facing land use in Scotland. By recognising the benefits and implications of our decisions and by focusing on common goals for different land users, the Strategy aims to help achieve a more integrated approach to land use, maintaining the future capacity of Scotland's land. It provides a set of Principles for Sustainable Land Use (see Appendix 3) to guide policy and decision making by Government and across the public sector. The Scottish Government expect planning authorities to have regard to the Strategy in preparing their development plans. SEPA will follow all the Ten Principles given in the Strategy when taking significant decisions affecting land use and making plans.

1.4 Objectives of our involvement

In addition to meeting Scottish Government aspirations, protecting soils and soil functionality fits with SEPA's wider objectives of environmental protection reflected in our key outcomes⁴. In light of these agendas our Planning Service will work towards achieving the following objectives.



⁴ As defined in SEPA's [Annual Operating Plan 2011-12](#).

By engaging in soil management issues through our Planning Service we will:

- support national priorities to mitigate and adapt to climate change and to deliver energy policy where they interface with our remit;
- help planning authorities better understand and take account of soil management issues;
- support delivery of the outcomes presented in the Scottish Soils Framework;
- apply the ten principles of Scotland's Land Use Strategy;
- support the delivery of national developments defined in the National Planning Framework 2;
- actively collaborate in the preparation of the new generation development plans to ensure that we can support the development proposals in the plan; and,
- provide timely, helpful and consistent advice in response to planning consultations.

We aim to achieve the above through collaboration with other stakeholders to clarify roles and responsibilities, identify information requirements for planning authorities and how these can be best met and to identify research needs. This approach is in concordance with our commitments outlined in [Delivering Planning Reform](#).

1.5 Scope of our involvement

The scope of our advice will be shaped by our role as:

- statutory consultee on flood risk, Environmental Impact Assessment, Strategic Environmental Assessment and Section 36 and 37 Electricity Act 1989 applications;
- statutory consultee on Forestry Commission Scotland Forestry Strategies;
- environmental regulator under a range of legislation including the Water Environment and Water Services (Scotland) Act 2003; waste management legislation; Contaminated Land legislation (including radioactive contaminated land); and Pollution Prevention and Control;
- a public body under Climate Change (Scotland) Act 2009;
- coordinator for River Basin Management Planning;
- lead authority under the Flood Risk Management (Scotland) Act 2009; and,
- validator for Section 36 Electricity Act 1989 carbon assessments for wind farm developments.

In fulfilling our responsibilities under some of the above areas we have already produced policy and guidance for developments that help protect soils including:

- [Delivering SEPA's Functions to Protect Wetlands](#)
- [SEPA's regulatory position statement on developments on peat](#)
- [Good Practice During Windfarm Construction](#)
- [Windfarm Development – Guidance for SEPA Staff](#) (available on SEPA intranet only)
- [SEPA Interim Position Statement on Planning, Energy and Climate Change](#)
- [SEPA Interim Position Statement on Planning and Flooding](#)
- [SEPA's Energy Position Statement](#)

We will also be mindful of areas of new and emerging policy and legislation such as;

- [The EU Soils Directive](#); and,
- A proposed Geodiversity Strategy for Scotland.

In light of the above, the following section clarifies when we will engage on soil related issues through our planning service.

2. How SEPA will engage planning to protect and improve soils

The following table sets out actions that SEPA will take to ensure that soils are taken into account as part of the planning process.

Current and proposed action	Helps deliver Planning Service objectives:	Reason for Action
Development Plans – We will engage with planning authorities to assist the identification of soils issues and to encourage policies that will help us to achieve the four objectives.		
Soils Protection - We will promote a policy framework for the protection and improvement of soils in Development Plans.	1,2 3,4.	To ensure that development plans provide a framework for the protection and improvement of soils.
Wider Policies - We will highlight soil issues and encourage the adoption of plans and supplementary guidance aimed at: <ul style="list-style-type: none"> • Retaining green space within development proposals; • Giving due consideration to the need to avoid the disturbance of high carbon soils such as peat; • Ensuring drainage measures provide for soil functionality through the use of SUDS or equivalent; • Sustainable use of soils during the development and operation of sites; • Supporting developments on previously contaminated land where this leads to remedial action being taken to clean up the site and improve soil function; and, • Avoiding development on the natural floodplain and ensuring that land allocations consider issues such as flooding risk through Strategic Flood Risk Assessment; 	1,2,3,4.	To ensure that development plans provide a framework for the protection and improvement of soils. To integrate soils within the wider environmental issues upon which SEPA will comment in its engagement on development plans.
Strategic Environmental Assessment - We will provide advice on the likely significant effects of development plans and other planning documents requiring Strategic Environmental Assessment through our	1,2,3,4.	To meet our duties as a SEA Consultation Authority To promote consideration of soils as plans, and

role as a statutory Consultation Authority.		alternatives, are developed
Development Management – We will provide advice to determining authorities and applicants on soils issues raised by applications for planning permissions that we are consulted upon.		
Peat - For Section 36 applications, we will validate the carbon balance calculations for windfarm developments on peat. Developers will be expected to use the updated carbon calculator to assess the carbon impact of their proposed development.	1,4.	To provide the Scottish Government Energy Consents Unit with advice on the use, accuracy and findings of the carbon balance assessment.
Contaminated Land – We will provide planning authorities with advice on contamination issues, particularly in relation to special sites and radioactively contaminated land. We will provide advice on other contaminated sites where they interface with other areas of our remit such as water or waste regulation.	2,3,4.	To ensure remediation of special sites through our enforcements duties. We are also the responsible body under the Radioactive Contaminated Land Regulations 2007 to ensure, amongst other duties, appropriate remediation.
Flooding - We will provide technical guidance on flood risk to support the land-use planning process. We will support natural compensatory schemes to help manage flood risk and support the use of green engineering techniques where appropriate.	1,2,3,4.	To contribute to sustainable flood management.
SUDS - We will require the adoption of SUDS or equivalent in relation to surface water drainage from new developments. We will identify opportunities to encourage above and below soil biodiversity in the design of SUDS.	1,2,3,4.	To contribute to sustainable flood management.
Soil Handling - We will seek the application of appropriate conditions to protect soils relating to mineral operations where stripping, storage and reinstatement of soils takes place. We will offer planning advice in relation to bunding around storage of potential pollutants and seek to secure good practice in reducing the unnecessary transport of soils.	2,3,4.	To ensure that impacts on soils from their handling and storage during construction are minimised. To ensure that bunding around storage of potential pollutants is appropriate.
CEMPs - We will advise on the content of Construction Environmental Management Plans (CEMPs) and construction method statements. We will seek to ensure that all Construction Environmental Management	2,3,4.	To ensure that impacts on soils from their handling and storage during construction are minimised.

Plans (CEMP) cover soil stripping, storage and reinstatement and measures to prevent soil compaction.		
Forestry – We will include soil considerations in our responses to Forestry and Rural Priority consultations. We will seek to influence soil protection and water issues through forestry consultations and strategically through input to the revisions of the Forestry Commission’s Forests and Water Guidelines (due to be updated shortly).	1,2,3,4.	To ensure that soils are given full consideration in forestry developments.
Current and proposed action	Helps deliver objectives:	Reason for Action
Wider engagement – In future we will work with planning authorities, applicants and partner agencies to build capacity and understanding of soils issues.		
Clarifying roles – We will work with the other Agencies to clarify the roles and responsibilities of our respective planning services on soil issues.	1,2,3,4.	To provide clarity and to enable a more integrated, efficient and effective service to our customers.
Working Together – We will: <ul style="list-style-type: none"> • raise soils issues through our role in the Key Agencies Group; • provide input to the Soil Focus Group on planning related issues; and, • develop a joint statement on protecting and enhancing soils with partner organisations, such as SNH, Historic Scotland, Forestry Commission Scotland and the Scottish Government Rural Payments and Inspections Directorate (SGRPID). 	1,2,3,4.	To develop partnership approaches to soils protection and improvement.
Peat - We will work with partners will raise awareness of the implications of development on peat and other carbon rich soils. We will work with partners to raise awareness of and the capacity to use the updated carbon calculator for windfarm developments on peat.	1,4.	To develop capacity and awareness on peat soils issues among participants in the planning process.
Research - We will continue targeted research into best management practices and cost effective ways of preserving soils and soil functions. We will work with partners to support the development of soil function maps which can be used by planning authorities.	1,2,3,4.	To ensure that our understanding and communication of soils issues is kept up to date and to enable us to promote good practice.

3. The way forward

This statement is seen as an initial step in providing greater clarity as to how we intend to engage on soil management issues through our planning service. It will be supported by operational guidance which will provide practical guidance on the range of issues we intend to engage upon and detail exactly how we expect them to be integrated into strategic development plans, local plans and development management processes. It will also include examples of the representations we will make in different circumstances when responding to planning consultations. This will make our position as transparent and upfront as possible to relevant parties.

We will continue to actively collaborate with other partners to ensure that soils issues are integrated into planning decisions in the most effective and efficient way. This will include the clarification of the roles and responsibilities of all Agencies with an interest on soil issues and the provision of clear and appropriate information to planning authorities to inform their plan and decision making processes.

Ultimately, by engaging early in the modernised plan-led system, we hope to secure agreement on all sides as to where and how the planning system can effectively contribute to the Scottish Government's aspirations in relation to soils. This will help provide greater investor confidence and a sound basis for decision making at the local level.

Appendix 1: Main Pressures and Impacts on Soil Functions

1. Soil Functions

Soils provide a wide range of environmental, economic and societal benefits. The concept of soil functions is a useful way of expressing the various roles that soils perform. However, it must be remembered that soil has an importance and value in itself, not necessarily or easily defined by its managed applications. [The Scottish Soil Framework](#) identifies a range of function that soils undertake:

- **Providing the basis for food and biomass production**

This is the most obvious and tangible of all the soil functions and the one to which it is easiest to attribute an economic value. The agriculture, forestry and horticultural industries are key parts of a sustainable rural economy. Healthy soils and sustainable management of existing soil resources enable these industries to produce high quality outputs.

- **Controlling and regulating environmental interactions - regulating water flow and quality**

Soils play a vital role in storing, retaining and transforming contaminants and preventing their discharge to water courses thus reducing diffuse pollution. River basin management is a requirement under the Water Framework Directive and the maintenance of key soil filtering and transforming functions are of fundamental importance in River Basin Management Plans. Soils also play a key role in sustainable flood risk management. Soils retain water and reduce overland flow and thus provide a natural barrier to safeguard habitation.

- **Storing carbon and maintaining the balance of gases in the air**

Scotland has large areas of organic matter rich soils which are a major sink and potential source of greenhouse gases. They contain the majority of the UK's reservoir of terrestrial carbon. Warmer climates and more intensive land use can increase loss of carbon from soils to the atmosphere.

- **Providing valued habitats and sustaining biodiversity**

Soils are a reservoir of huge biological diversity. Soils support a number of terrestrial habitats of international significance and indeed should be viewed as being an integral part of those habitats and associated landscapes including blanket peatlands, montane habitats, native pine woodlands and machair grasslands. These habitats underpin Scotland's rural tourism and sporting industry in parts of Scotland where other economic opportunities are often limited.

- **Preserving cultural and archaeological heritage**

Scotland has a distinctive range of soils as a result of both specific environmental influences and a long tradition of soil use. These soils should be seen as an intrinsic part of our culture. Soils in themselves provide a record of past environment and climate as well as previous cultural influences on them. They also provide a protective cover for subsurface archaeological remains.

- **Providing raw material**

Soils provide a direct source of minerals and other resources, such as peat, topsoil, sand and gravel. Peat has been used as a traditional fuel in Scotland since prehistoric times and is also particularly important for the Scottish Whisky industry. Fulfilling the role of raw material provision at a large scale could lead to the destruction of soils, to the detriment of other soil functions.

- **Providing a platform for buildings and roads**

This function is different from the others in so far as once soil is used to fulfil a 'platform role', it loses, to a large extent, its capacity to fulfil its multi-functional role in the environment. The 'platform role' is in most cases connected with soil compaction and sealing (covering the soil with an impermeable surface), thereby reducing or destroying the ability of soils to provide environmental and ecological services.

Ecosystem services

.A further concept which can be used to frame how soils provide environmental, economic and societal benefits is that of "ecosystem services". This concept is designed to identify explicitly the benefits that accrue from the wider environment (of which soil is a component) to society.

2. Pressures on Scotland's Soils

The main pressures on Scottish soils are identified in Chapter 4 of the [Scottish Soils Framework](#) and are based upon an analysis of threats undertaken by *Towers et al* (2006)⁵. They are:

Climate change and loss of organic matter are the most significant threats to the functioning of Scottish soils. Both affect most soil functions with impacts which are national in their spatial occurrence and which are difficult to reverse. However, there are great levels of uncertainty associated with these linked threats.

Sealing is a serious threat in that once the soil is covered with an impermeable surface and development has taken place, it cannot perform any other functions.

Acidification and Eutrophication are most evident in water quality and above ground vegetation where the critical load approach has been used to determine the extent of damage to soils and ecosystems. Although there is evidence that pH in water is recovering due to sulphur abatement policies, it will take decades for soils to recover to previous levels. There have not yet been similar reductions in nitrogen emissions and deposition, so eutrophication remains a threat to upland soil quality.

Loss of soil biodiversity is difficult to assess due to the lack of an evidence base. But given that soil organisms are the driving force behind most soil processes, decline in soil biodiversity is thought to be a significant threat.

Contamination by heavy metals can be locally significant. Other contaminants such as persistent organic pollutants, pharmaceuticals, pesticides and hormones need to be considered in any future analysis.

Erosion, pesticides and compaction, associated with agricultural activity can be significant locally and it is local action that will resolve them. New evidence indicates that compaction may be a bigger threat than previously thought. There is also doubt about the effectiveness of ameliorative treatments. The risk of compaction is also likely to increase under a changing climate and with the use of heavier machinery.

Salinisation (the increased level of soluble salts in the soil profile) was not judged to be a current threat to Scottish soils. However, rising sea levels and the resulting impacts of seasonal incursion by sea water could also have a dramatic effect on coastal soils, and the integrity of many archaeological structures that are currently protected by soil.

The following table provides a useful overview of how the above pressures can impact on soil functions. It has been extracted from the [Scottish Soils Framework](#) and is informed by expert judgements.

⁵ Towers, W. Grieve, I.C. Hudson, G. Campbell, C.D. Lilly, A. Davidson, D.A. Bacon, J.R. Langan S.J. and Hopkins D.W. (2006) *Scotland's Soil Resource - Current State And Threats*, Environmental Research Report 2006/01, Scottish Executive, Edinburgh. ISBN 0 7559 6260 5, <http://www.scotland.gov.uk/Publications/2006/09/21115639/0>

Summary of the impacts of soil pressures on the functionality of soil

Threats to Scottish soils (Towers <i>et al.</i> 2006)	Function impacted)						
	Food & biomass production	Regulating water flow & quality	Carbon storage and gas balance	Habitats & biodiversity	Heritage	Raw Materials	Platform for building
Climate change	XX	XX	XX	XX	XX	X	
Loss of organic matter	XX	XX	XX	XX	X		
Sealing	XX	XX	XX	XX	XX	XX	
Acidification and Eutrophication	X	XX	X	XX	X		
Loss of biodiversity	X	X	XX	XX			
Contamination by heavy metals	X	X	X	XX			X
Soil erosion	X	X ¹	X	X	X		
Pesticides		X ¹		XX			
Compaction and structure	X	X ¹	X ¹	X	X		
Salinisation	X ¹			XX	X ¹		

XX major effect

X minor effect

¹ but locally important

Appendix 2: The Scottish Soil Framework Outcomes

The following outcomes are identified in Chapter 7 of the [Scottish Soil Framework](#):

SO1 - Soil organic matter stock protected and enhanced where appropriate

SO2 - Soil erosion reduced and where possible remediated

SO3 - Soil structure maintained

SO4 - Greenhouse gas emission from soils reduced to optimum balance

SO5 - Soil biodiversity, as well as above ground biodiversity, protected

SO6 - Soils making a positive contribution to sustainable flood management

SO7 - Water quality enhanced through improved soil management

SO8 - Soil's productive capacity to produce food, timber and other biomass maintained and enhanced

SO9 - Soil contamination reduced

SO10 - Reduced pressure on soils by using brownfield sites in preference to greenfield

SO11 - Soils with significant historical and cultural features protected

SO12 - Knowledge and understanding of soils enhanced, evidence base for policy review and development strengthened

SO13 - Effective coordination of all stakeholders roles, responsibilities and actions

Appendix 3: Scotland's Land Use Strategy - Principles for Sustainable Land Use

The ten principles for sustainable land use outlined in the Scottish Government's [Land Use Strategy](#) are:

1. Opportunities for land use to deliver multiple benefits should be encouraged.
2. Regulation should continue to protect essential public interests whilst placing as light a burden on businesses as is consistent with achieving its purpose. Incentives should be efficient and cost-effective.
3. Where land is highly suitable for a primary use (for example food production, flood management, water catchment management and carbon storage) this value should be recognised in decision-making.
4. Land use decisions should be informed by an understanding of the functioning of the ecosystems which they affect in order to maintain the benefits of the ecosystem services which they provide.
5. Landscape change should be managed positively and sympathetically, considering the implications of change at a scale appropriate to the landscape in question, given that all Scotland's landscapes are important to our sense of identity and to our individual and social wellbeing.
6. Land-use decisions should be informed by an understanding of the opportunities and threats brought about by the changing climate. Greenhouse gas emissions associated with land use should be reduced and land should continue to contribute to delivering climate change adaptation and mitigation objectives.
7. Where land has ceased to fulfil a useful function because it is derelict or vacant, this represents a significant loss of economic potential and amenity for the community concerned. It should be a priority to examine options for restoring all such land to economically, socially or environmentally productive uses.
8. Outdoor recreation opportunities and public access to land should be encouraged, along with the provision of accessible green space close to where people live, given their importance for health and well-being.
9. People should have opportunities to contribute to debates and decisions about land use and management decisions which affect their lives and their future.
10. Opportunities to broaden our understanding of the links between land use and daily living should be encouraged.