

# Engagement with stakeholders in Scotland

Willie Towers (with grateful thanks for contributions from many colleagues)



The James  
**Hutton**  
**Institute**

And funding primarily from the Scottish Government



# Who are our stakeholders?

- Many and diverse
  - Policy and politicians
  - Education
  - Land managers
  - Regulators
  - Consultants
  - The 'public'
  - Fellow scientists
- This provides the key challenge....

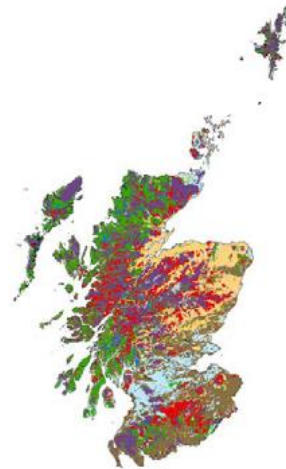
# Policy

- Provided technical support in the development of the Scottish Soil Framework
- Research Community is a member of the Soil Focus Group charged with monitoring progress of agreed actions (including from researchers!)
- Meets every 6-9 months, next meeting in Aberdeen in November
- Framework due for review and update in 2014
- A key outcome is the development of the Soil Monitoring Action Plan (SoilMAP)

## The Scottish Soil Framework



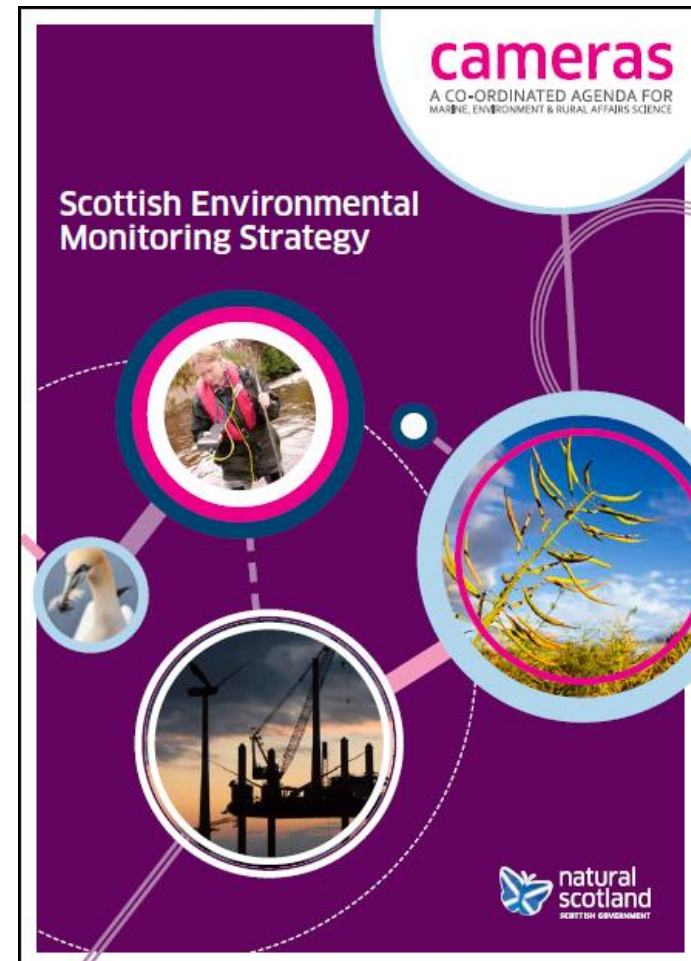
May 2009



# Soil Monitoring Action Plan



- Most reports highlight the lack of trend data to track the condition of our soils
- Or the lack of co-ordination between different sampling schemes
- SoilMAP approved May 2013
- Recognises that:
  - Soils are multifunctional
  - Different end users have different requirements
  - Consultation required and is still continuing



# Principles of Soil MAP

## ● Soils deliver multiple benefits

- Address all functions in EU Soil Thematic Strategy: *provisioning, regulating, C store, raw materials, platform, heritage, biodiversity.*
- Two “new” functions:
  - ▶ Safeguarding human and animal health
  - ▶ Sustainability of Scotland’s soil resources

## ● Different end-users require different forms of information derived from soils data

- Requires compr
- Further work needed to clarify some end-user requirements e.g. local authorities, farmers.
  - ▶ *Targeted interviews as part of SG research programme*





# Implementation of Soil MAP

## ● Integrating and harmonising monitoring activities across spatial and temporal dimensions

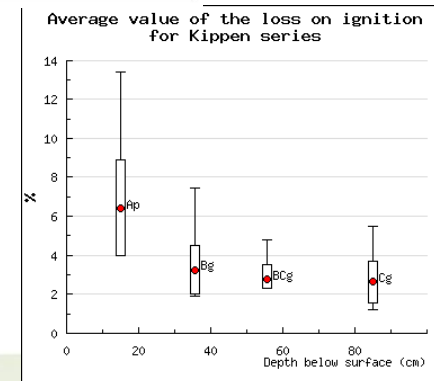
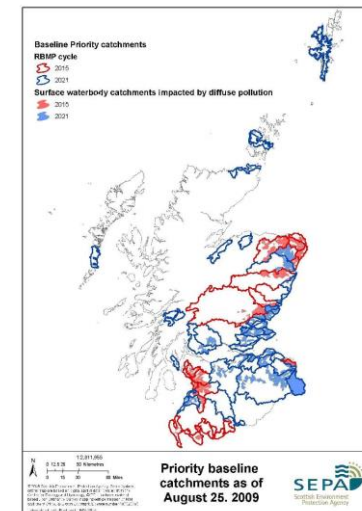
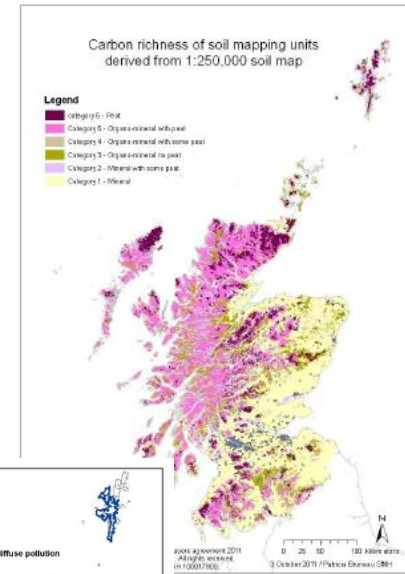
- National → Regional / Catchment → Field / plot
- Decadal → Yearly → Monthly → Daily → Hourly

## ● Engagement

- Fostering cooperative multi-organisational approach
- Working together at sectoral levels to address shared and contrasting issues

## ● Phased tasks 2013-2016

- Short term “easy-targets” tasks building on existing initiatives
  - ▶ *forest soil carbon, peatlands, catchment walks (soil erosion), RESAS soil biodiversity research, sealing, etc.*
- Medium term tasks – mini-action plans for sectors working up to national integration
- Evolving to an integrated programme that has “buy-in” across parties from delivery to end-users





# Making soil (and other) data available





## SE Web development

- Provides the gateway to information and data on Scotland's environment
- Each part of the environment described to a common template
- And assessment made on state

[Wildlife](#)  
[Environmental Monitoring](#)  
[Library Search](#)  
[Map](#)  
[Get Involved](#)  
[Trends and Indicators](#)  
[Sectors and Issues](#)  
[Life+ Project](#)


Our understanding of how the condition of land changes over time is limited and there are few mechanisms to ensure its protection. Ensuring our land is kept in a good state to enable it to provide these benefits is vital for the sustainability of the environment as a whole.

[Click for explanation of diagram.](#)

Topic	Summary
<b>Landscape</b>  Scotland's landscape is one of its most iconic assets. It is essential for our health and well-being and thus requires careful management.	Scotland is renowned for its distinctive and diverse range of landscapes. These have evolved over many years as a consequence of natural and cultural forces and continue to evolve today. Highlands and lowlands, urban and coastal, together they create the backdrop against which we live our lives. Landscapes contribute positively to our well-being and to the economic performance of the country. However, we risk damaging our landscapes and losing what we value about them unless more attention is paid to managing change.
<b>Land use and management</b>  Scotland's land is primarily rural and is used for a range of agricultural, forestry, sporting and recreational activities.	Land use in Scotland is diverse and has a strong relationship with the quality, appearance and perception of the land. Agriculture is the predominant land use in Scotland, covering around 70% of the land area. Over half of this is rough grazing; only 10% is arable land. Woodland currently covers around 18% of Scotland, most of which is coniferous plantation. Large areas of land are managed primarily for sporting use (deer and grouse). Only about 2.5% of the country is urban and much of this is in the Central Belt. There is an increasing awareness that the sustainable management of our land has a key role to play in our response to climate change and improving the wider environment (e.g. run-off from fields affecting river water quality).
<b>Rocks and landforms</b>  Scotland's rocks and landforms provide economic, social and environmental benefits, and help us to understand our dynamic Earth.	Scotland's rocks and landforms are of national and international importance for demonstrating key geological processes and events in the Earth's history. They provide essential ecosystem services delivering economic, social and environmental benefits. However, their importance is not widely understood or reflected in current policy. Many of the rocks and minerals protected by legislation are in favourable condition, but that is only a fraction of the wider resource. Understanding how rocks and landforms change over time has an important part to play in enabling society to understand and adapt to current issues such as climate change and sea level rise.
<b>Soils</b>  Scotland's soils are diverse and rich in carbon; they are vital for Scotland's health, prosperity and environment.	Scotland's soils are very diverse. They provide many environmental, economic and social benefits, supporting the supply of food, wood, clean water and habitat, as well as storing carbon. The key pressures that soils face are climate change and changes in land use and land management; these can have environmental and socio-economic impacts. Sustainable soil management should be recognised as part of the solution to a number of key issues that Scotland faces. We need better policy integration, better trend data on the state of soils and good practical soil management solutions.

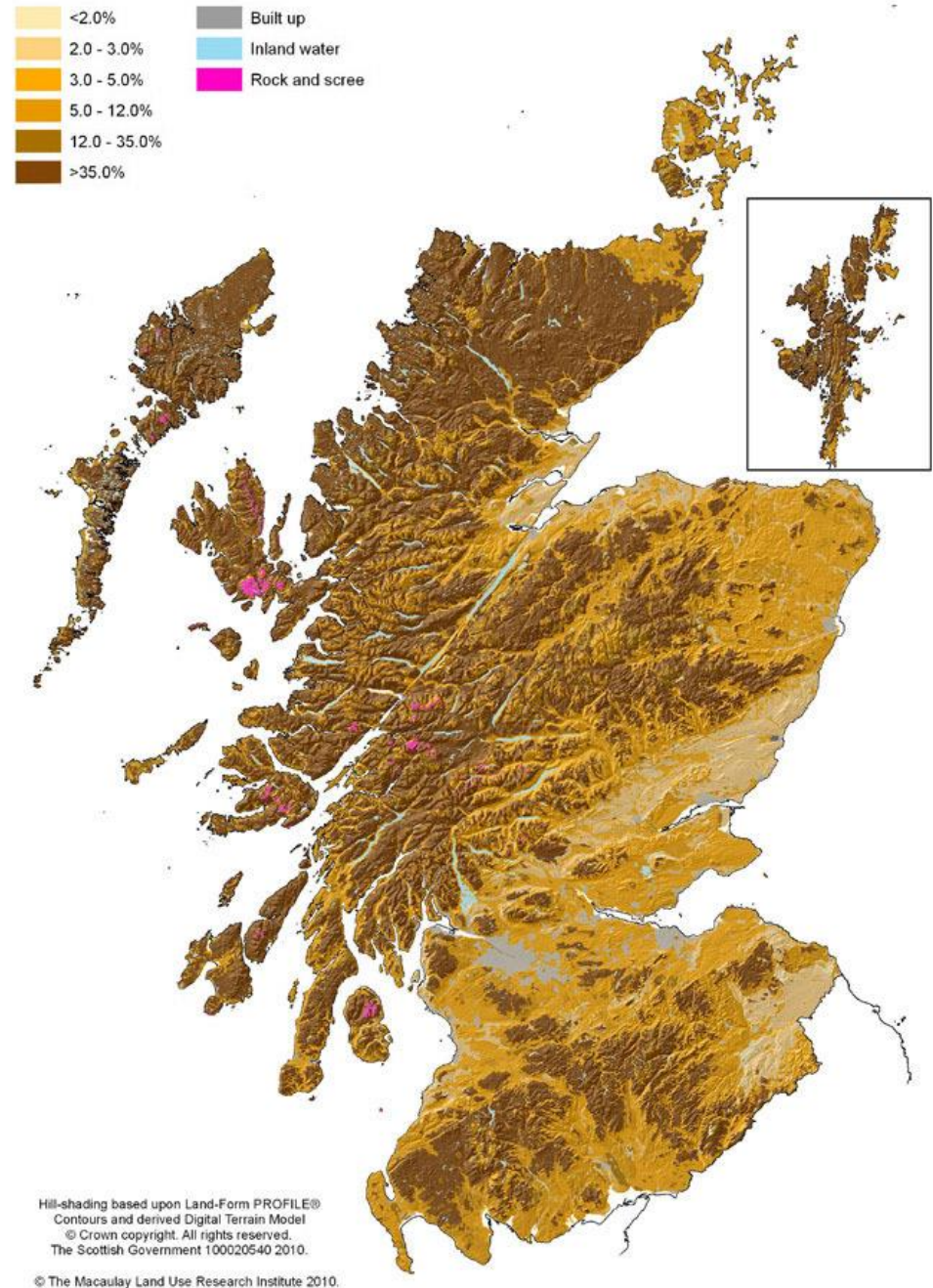
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Updated: 1 November 2011

 **natural  
scotland**  
SCOTTISH GOVERNMENT

# Scottish Database

- A 'daughter' pilot website to SEWeb
- Viewing and provision of key datasets +
  - Glossary
  - FAQs
  - Library
  - Images
  - More detailed contextual soil information
- Workshop held and subsequent User Group formed
  - Key piece of feedback was the preference for derived and interpreted products e.g. organic carbon content
- The range of potential users proved challenging to get the correct tone of language





# Getting the information out there.....

Select Soil Map Unit for Aberdeen City

- 1
- 97
- 115
- 116
- 117

Select Soil Map Unit

Select Soil Series for Soil Map Unit 115

- Countesswells

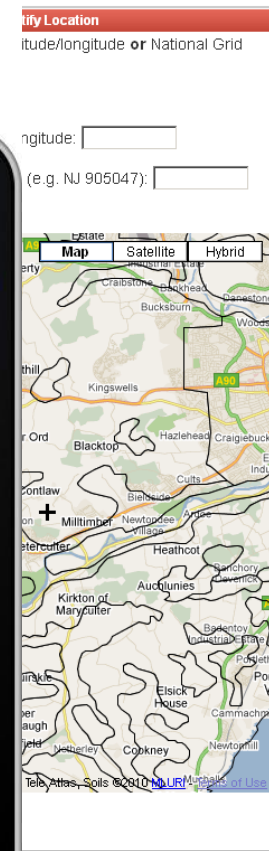
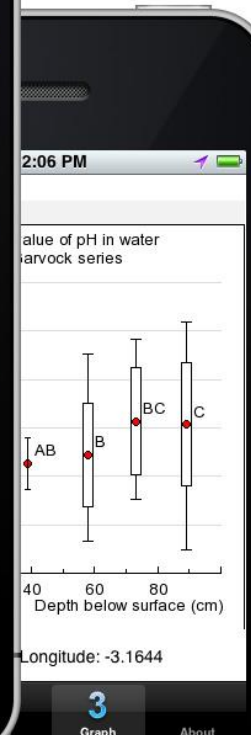
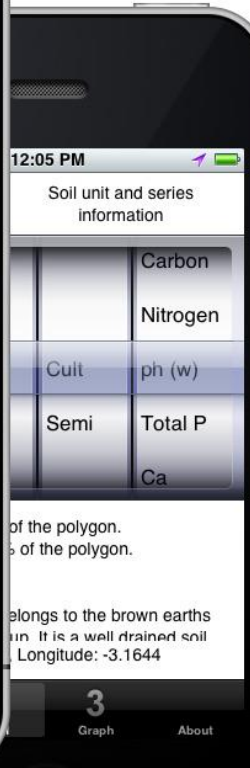
Select Soil Series

## Notes

For this soil the following number of observations have been made for the selected attribute:

Ap: 27  
Bs: 18  
BCx: 17  
C: 22

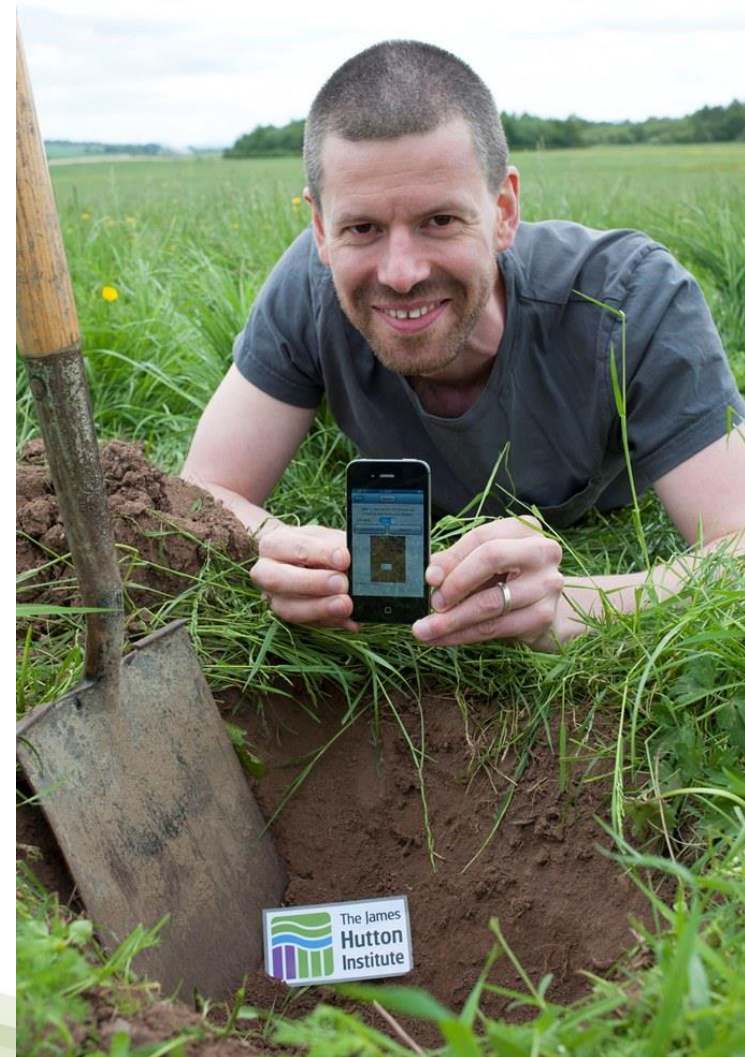
In the plot there is a box and whisker for each soil horizon. The median value of the chosen soil attribute is marked by the red dot. The box shows the median plus/minus one standard deviation and the whiskers show the maximum and minimum observed values. In cases of fewer than 6 samples the measured minimum and maximum values are shown as a bar. If there is a single observation then a red dot will be shown in the graph.



# Getting the information out there.....

## SOCiT (Soil Organic Carbon information Technology)

- Interested in your soil carbon content?
- Obtain a colour correction card
- Dig a small pit to expose soil
- Take a digital photograph
- Send it to the James Hutton Institute using the app
- Soil colour and site character used to drive a predictive model
- Predicted SOC content sent back to the mobile phone within approx. 30 seconds



# Best Soil in Show

- The Royal Highland Show is Scotland's premier rural event
  - 'the country comes to the city'(Edinburgh)
- Various types and breeds of animals win prizes for being 'best of the show'
- So why not Soils?
- Limited entry in 2013.....but the idea caught the imagination so we are running it again at a bigger scale in 2014





# Other events

- Dundee Flower Show
- Gardening Scotland
- Material loaned to other venues
- And of course children are always good fun.





# But so are adults.....



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# And lastly our fellow scientists

- In the UK, there was underinvestment in maintaining field based capacity: late 1980s until c 2010
- But now demand is back for basic soil mapping and characterisation skills
- The BSSS/IPSS have just completed their first field course based on Working with Soil  
<http://www.soils.org.uk/pages/ipss/working-soil>
- Course feedback was very positive and encouraging

