# The Soil Sealing Guidelines: a document of the Commission services to improve land management in the EU

**Advisory Group**
**`Agriculture and Environment'**
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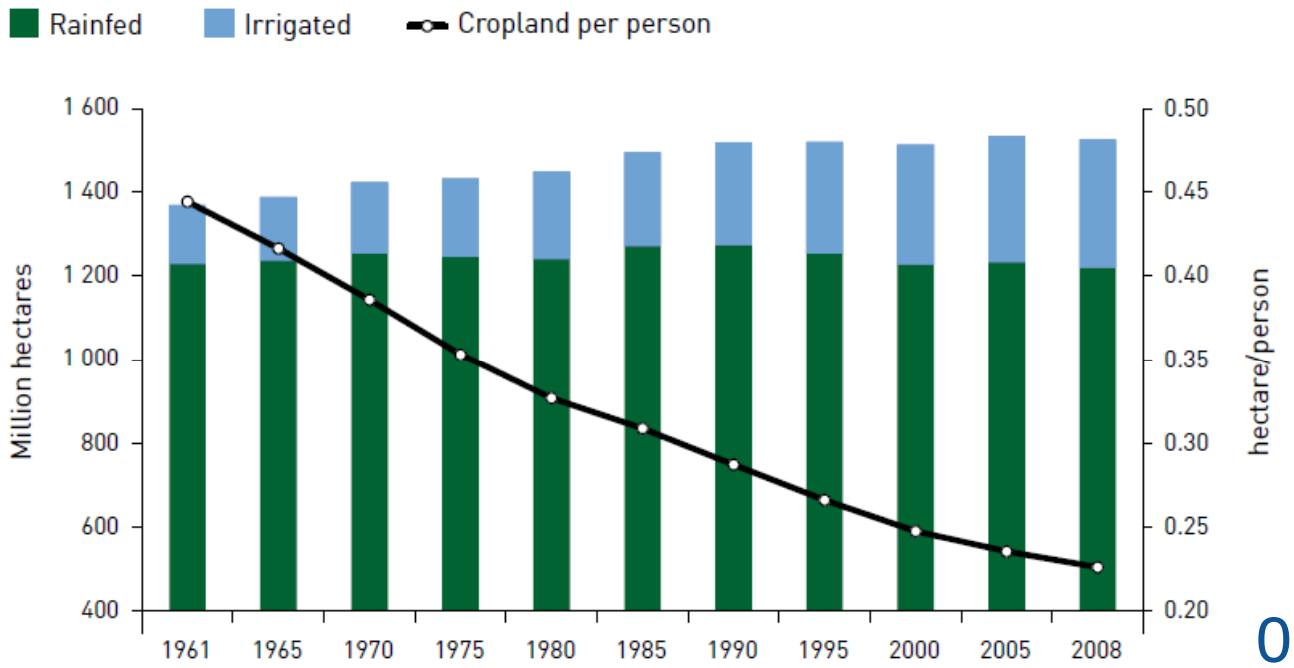
# Setting the context

- Soil is a **non-renewable** natural resource
- It performs **crucial** ecological, social and economic functions
- Soils are being **increasingly degraded** or **irreversibly lost** across the EU
- Some 1,000 km²/year = 270 ha/day **taken over** by urban and infrastructure expansion
- In **ten years**, an area the size of Cyprus, or the whole arable land of the Netherlands

# Arable land – a shrinking resource




*Source: FAO (2010b)*

0,2 ha by 2020


- **Soil Thematic Strategy**, COM(2006) 231:
  - *The Commission will (…) initiate activities to develop best practices to mitigate negative effects of sealing on soil functions in 2007*
- **Resource Efficiency Roadmap**, COM(2011) 571:
  - *Milestone: By 2020, EU policies take into account their direct and indirect impact on land use in the EU and globally, and the rate of land take is on track with an aim to achieve no net land take by 2050*
  - *The Commission will (…) publish guidelines on best practice to limit, mitigate or compensate soil sealing (in 2012)*
- **Soil Thematic Strategy Report**, COM(2012) 46:
  - *Soil sealing (the permanent covering of soil with an impermeable material) and associated land take lead to the loss of important soil functions (such as water filtration and storage, and food production).*

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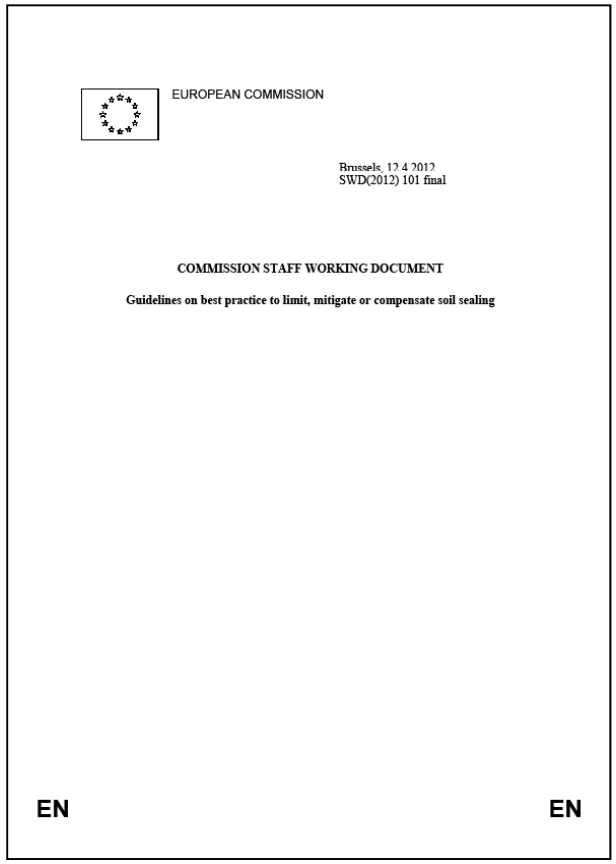
# Guidelines on best practice to limit, mitigate or compensate soil sealing,

## SWD(2012) 101, 12 April 2012



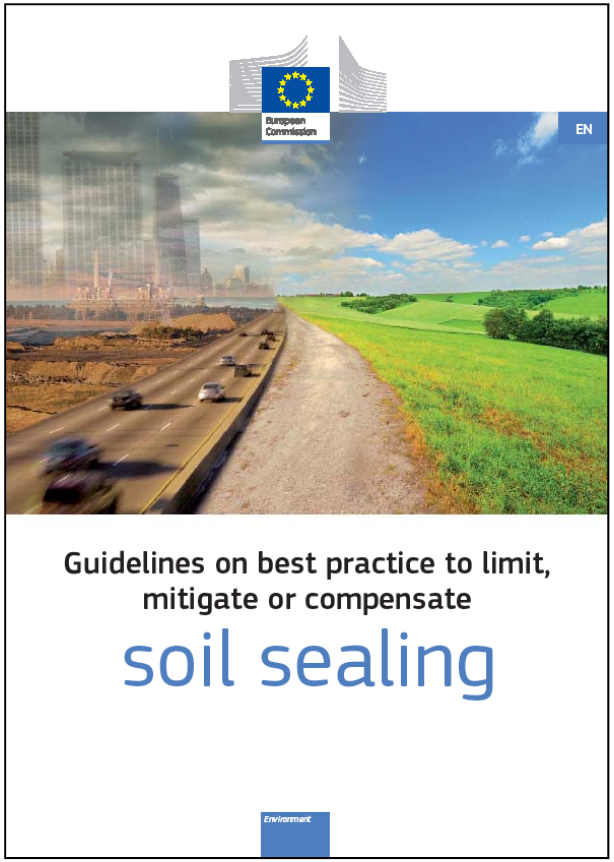
EUROPEAN COMMISSION

Brussels, 12.4.2012
SWD(2012) 101 final

**COMMISSION STAFF WORKING DOCUMENT**

**Guidelines on best practice to limit, mitigate or compensate soil sealing**

**EN** **EN**




- **English version** of the Soil Sealing Guidelines already available at http://ec.europa.eu/environment/soil/sealing_guidelines.htm
- **All other EU language versions** ready by July 2012
- Selected versions (Bulgarian, Czech, French, German, Greek, Italian, Polish, Portuguese, Romanian and Spanish) in **brochure-like form** by end of September 2012
- The others to follow in 2013 (subject to budget availability)

# Objective of the document

- Provide information on:
  - The magnitude of soil sealing in the EU;
  - Impacts;
  - Examples of best practice.


- Best practice examples may be of interest to:
  - National, regional and local authorities in Member States;
  - Professionals dealing with land planning and soil management;
  - Stakeholders in general and citizens.

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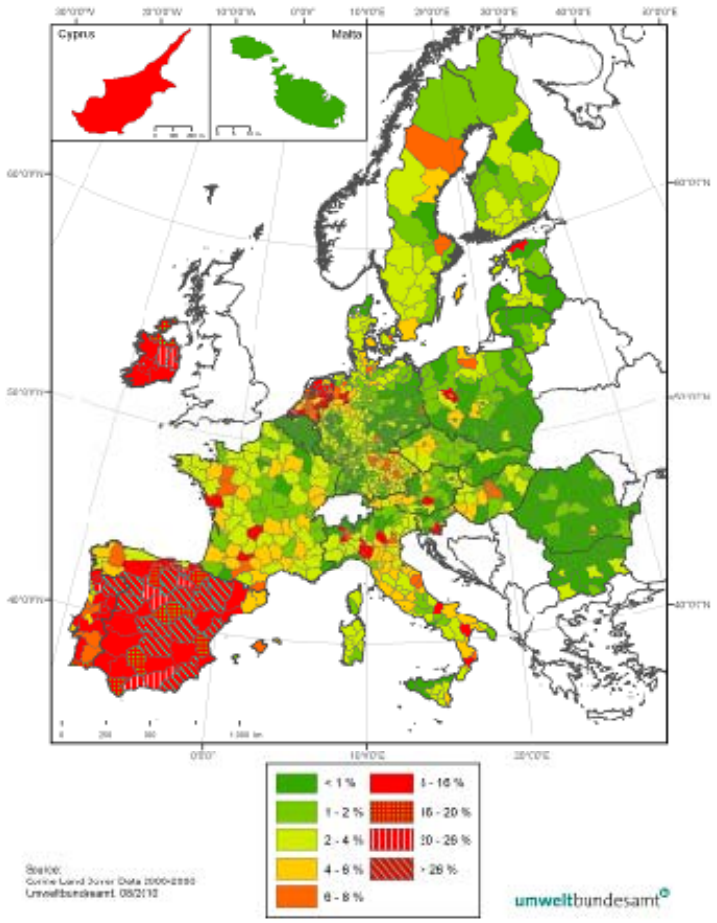
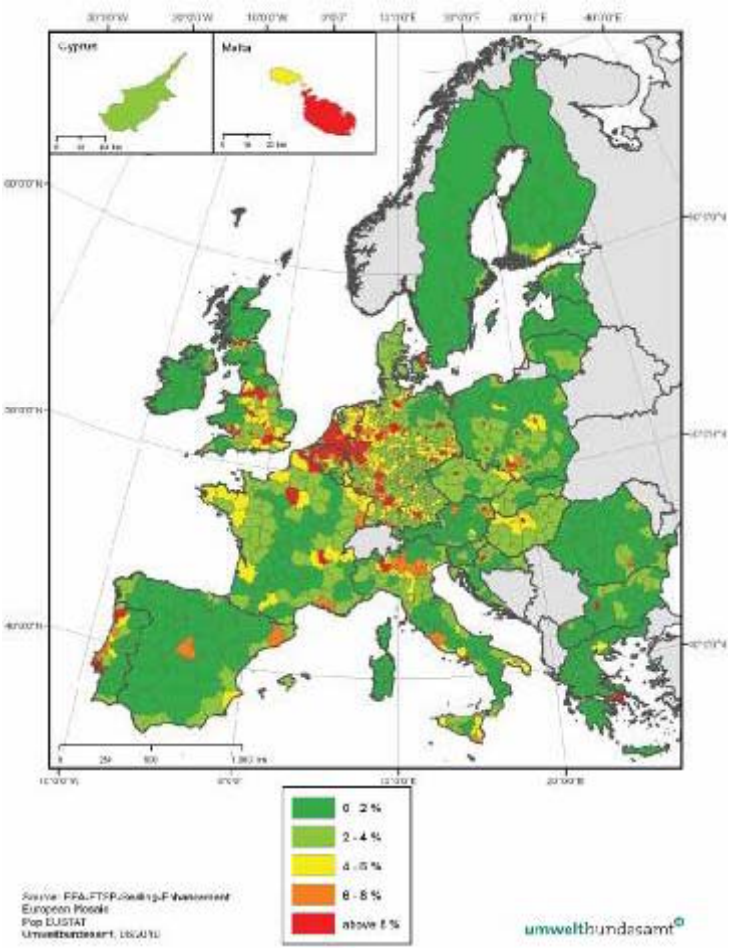
# The magnitude of soil sealing in the EU

## Land take per administrative unit in the period 2000-2006




## Soil sealed surface in 2006



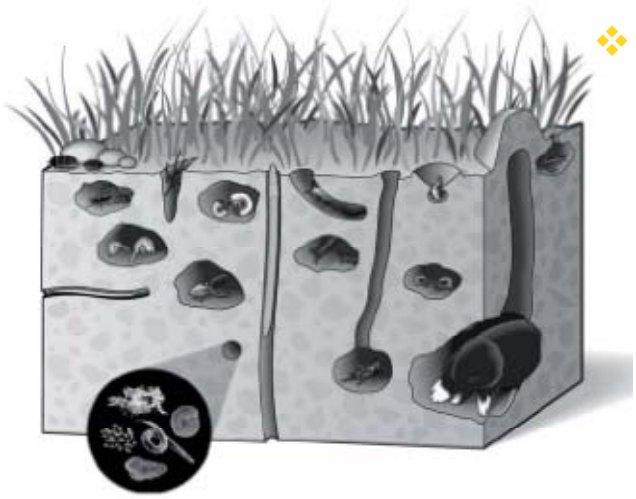
# Agricultural land consumption


- **11 % productivity loss (average grain harvest)**
- **twice the area as indicated by Corine**

**source: dbk 3 / 11**

# Impacts of soil sealing

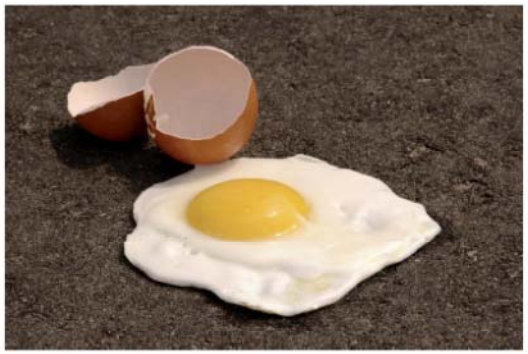
- Soil can store as much as 3 750 t/ha of **water** or almost 400 mm of precipitation. Sealing reduces rainfall absorption, thus increasing flooding risks and exacerbating drought, and requires bigger sewers.



- At least a quarter of global **biodiversity** is in soil. Soil sealing affects both above and below-ground biodiversity. Linear soil sealing (e.g. roads and motorways) can be a barrier for some wildlife, interrupting migration paths and affecting their habitats.

# Impacts of soil sealing (cont'd)

- Land take and soil sealing affect **food security**.
- European soils store some 70-75 billion tonnes of organic carbon. Because of soil stripping, sealing causes the **loss of soil carbon**.
- The reduction in evapo-transpiration causes the **'urban heat island' effect**.



- An overly intensive degree of soil sealing, without open spaces of sufficient quality, can reduce the **quality of living** in urban areas.

# Examples of best practice

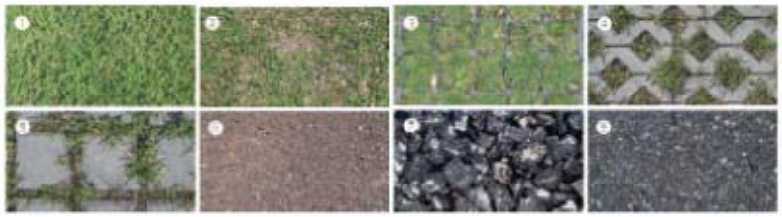
- Land take targets
- Planning restrictions & greenbelts
- Planning guidance towards less valuable soils
- Protection of agricultural soils & valuable landscapes

- Brownfield regeneration
- Improving city centres quality of life
- Soil quality in city planning
- Eco accounts and compensation systems
- ...

# A three-pronged approach

- Limiting
  - Reducing / stopping land take
  - Reusing already sealed land (e.g. brownfields)
- Mitigating
  - Permeable materials and surfaces
  - Green Infrastructure
  - Natural water harvesting systems

- Compensating
  - Re-using topsoil
  - De-sealing
  - Eco-accounts
  - Sealing fees



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## Annex 6 – Contributors

The contribution of the following external experts to the reflection process leading to the preparation of this Commission Staff Working Document – whether as participants in the three meetings of the Expert Group on Soil Sealing organised by the Environment Directorate-General of the European Commission in March, May and October 2011, or through written contributions – is gratefully acknowledged.

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