



*Soil health, is it serious doctor ?
5 December 2024, Brussels*

Soil health ? A regional perspective from Wallonia, Belgium

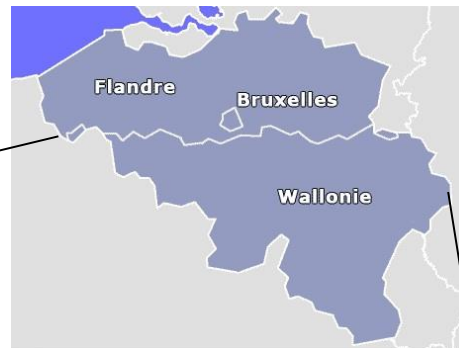
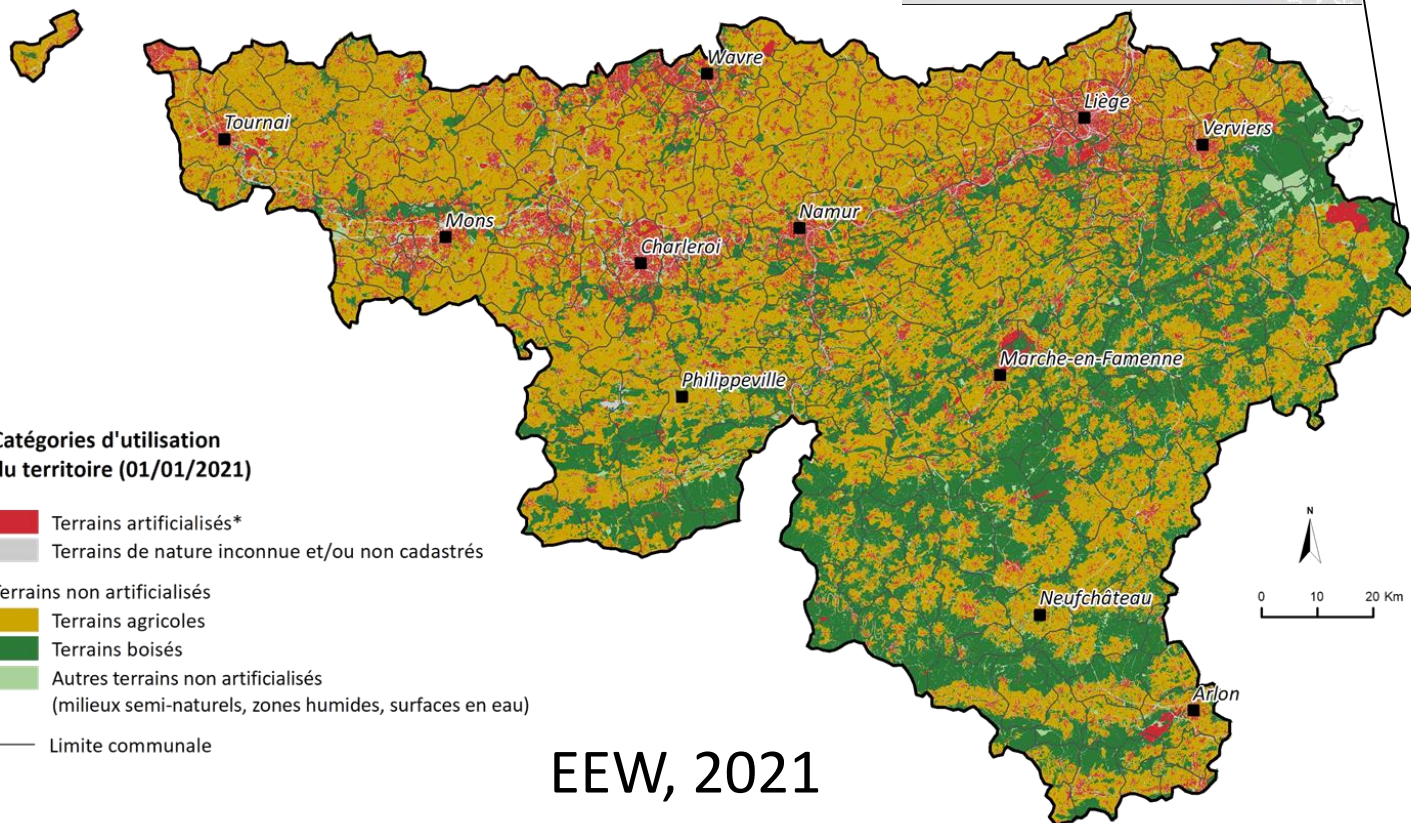
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Public Service of Wallonia (SPW)
Belgium

Outline

1. Context
2. Legal bases
3. Status of soil threats and ecosystem services in Wallonia
4. Actions taken and to be developed
5. Conclusions

1 - Context

Wallonia



Administrative regions in charge of environmental & agricultural competences (and partly health) since 1980

=> **Regional soil legislations !**

3,6 M inhabitants

217 inhab/km²

BE: 377 inhab/km²

Flanders: 492 inhab/km²

Brussels: 7528 inhab/km²

EU: 109 inhab/km²

16 901 km²

52% agriculture

32% forest

11% artificialised

2 – Legal bases

- Soil health? No legal definition

Urban soils

Agricultural soils

Forest soils

2 – Legal bases

- Soil health? No legal definition, rather concept of land preservation, soil use

Urban soils

Agricultural soils

Forest soils

Territorial development code

Environment code

Agricultural code

Rural code

Forest code

- ✓ Territory is a **common good**
 - ✓ Sustainable & attractive development respecting **spatial optimisation**
 - * maximal **preservation of land** (limit urban sprawl)
 - * efficient & coherent **use of soil** through urbanization
- => report on artificialisation, urban sprawl & land availability every 3 yrs

2 – Legal bases

- Soil health? No legal definition, rather concept of land preservation, soil use, soil damage, soil quality, soil protection,

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- ✓ *Environment (including soil) is a **common good***
- ✓ ***Prevention** rather than remediation*
- ✓ ***Precautionary principle***
- ✓ ***Polluter-pays principle***
- ✓ *Correction of **environmental damage (incl. soil)***
- ✓ *Sustainable growth based on **circular economy and functionality***
- ⇒ ***Sectoral action plan for soil quality***
- ⇒ ***EIA, permit, offences***
- ⇒ ***Soil protection section in the Environmental Protection Fund***
- ⇒ ***SPAQuE company** (actions related to contaminated sites management, knowledge improvement of soil status, soil quality damage prevention)*

2 – Legal bases

- Soil health?

No legal definition, rather concept of land preservation, soil use, soil/land damage, soil quality, soil protection/preservation, land destruction

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- ✓ *Functions of agriculture (food, **preservation & management of soil**)*
 - ✓ **Centralised database** for aids, CAP, advisory system
 - ✓ *Protection against **erosion & floods** (subsidies for local authorities, measures including agricultural practices, advisory organisms), **agricultural disaster** (incl land destruction/damage)*
 - ✓ **Land consolidation (soil rating)**
- ⇒ **OPW** to handle CAP (and other) subsidies

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✓ *Land access (public work excavations)*

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- ✓ Sustainable development of woods & forests relies on **soil functions** maintainance and improvment
- ✓ Rules for technical conditions of vehicles in order to **protect soil**, for amendments and fertilisers application, drainage, plantations
- ✓ Prolonged **alteration of soil** forbidden
- ⇒ **Land development plan (inlcuding for maintaining soil quality)**

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**Environment
permits**

Water
code

Waste
decree

Soil
decree

Energy Climate

Nature restoration

- ✓ *Emission, pollution, restoration*
- ✓ ***Soil definition, soil quality preservation, rational soil management***
- ✓ *Potentially polluting activities (IPPC-IED)*
- ✓ *Baseline reports*
- ⇒ ***Permit delivery***

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Nature restoration

- ✓ *Pollution definition (including soils)*
- ✓ *Organic material or fertilisers regulation, soil analyses (N)*
- ⇒ *Flood risk management plan (sustainable land use, water retention)*
- ⇒ *River-based Management Plans (RBMP),*
- ⇒ *Walloon Pesticide Reduction Programme (PWRP)*
- ⇒ *Sustainable Nitrate management Plan (PGDA)*
- ⇒ *SPGE, Protect'eau*

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Nature restoration

- ✓ ***In-situ soils out of scope***
- ✓ *Waste hierarchy*
- ✓ *Self-sufficiency & proximity*
- ✓ *By-products, end-of-waste, waste list, registers*
- ✓ *Prevention, management (without **risk for soils**), responsibility*
- ✓ *Landfills restauration & rehabilitation (**in line with soil decree**), organic waste prohibited*
- ✓ *Objectives for household waste decrease, **biowaste recycling** (R10)*
- ✓ *Registers, certifications, annual report*
- ⇒ ***Waste – resources plan***
- ⇒ ***SPAQuE company (restauration & security measures)***

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Environment permits Water code Waste decree Soil decree

Energy Climate Nature restoration

- ✓ *Energy renovation*
- ✓ *Renewable energy production*
- ✓ *Sustainable criteria and GHG emission reduction for biomass (from agriculture & forest)*
- ⇒ *Soil quality preservation, including soil organic carbon content & stocks*

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Energy **Climate**

Nature restoration

- ✓ *Climate change*
- ✓ **Emission inventories** (including LULUCF and carbon stocks)
⇒ *Air climate energy plan (PACE)*

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Energy Climate

Nature restoration

- ✓ Restoration of various **ecosystems** (including terrestrial, urban, agricultural and forest)
- ✓ Objectives (areas, indicators) for 2030 (30%) and 2050 (100%)
 - **Green urban spaces**, tree urban cover
 - Restoration of **drained peatland** in agriculture, **SOC stocks in agricultural & forest soils**

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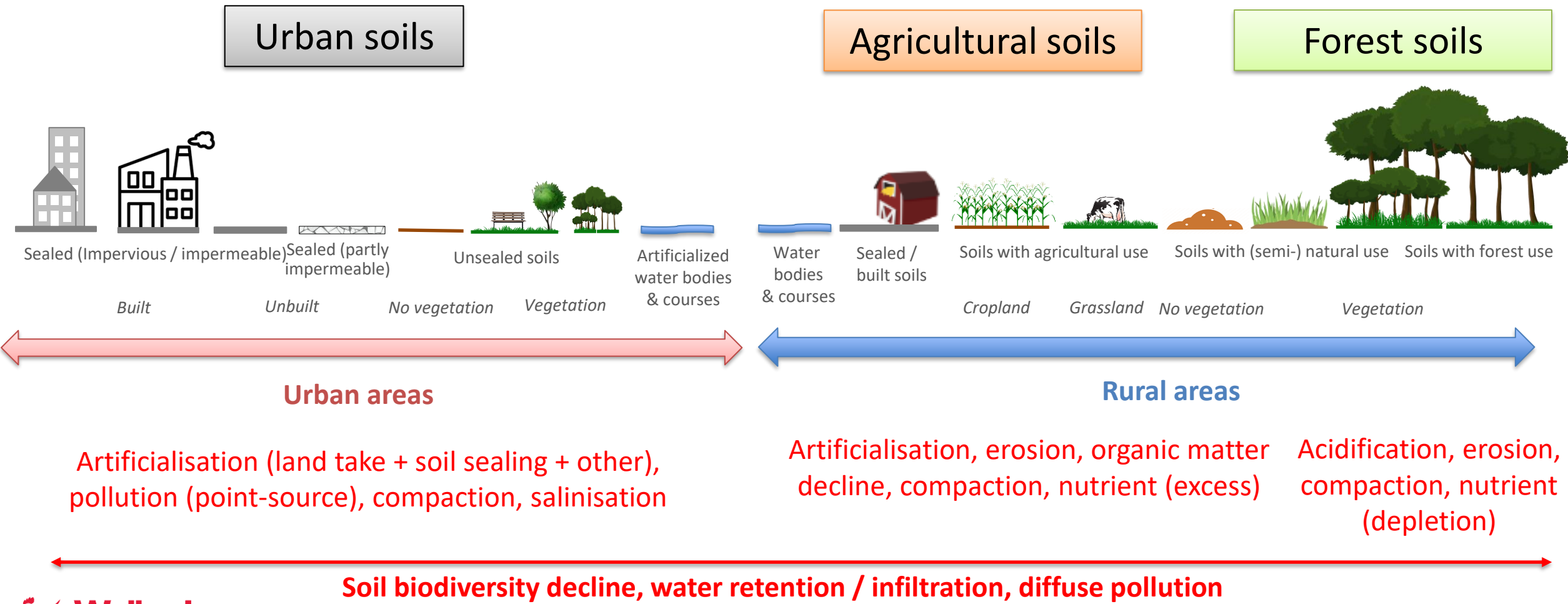
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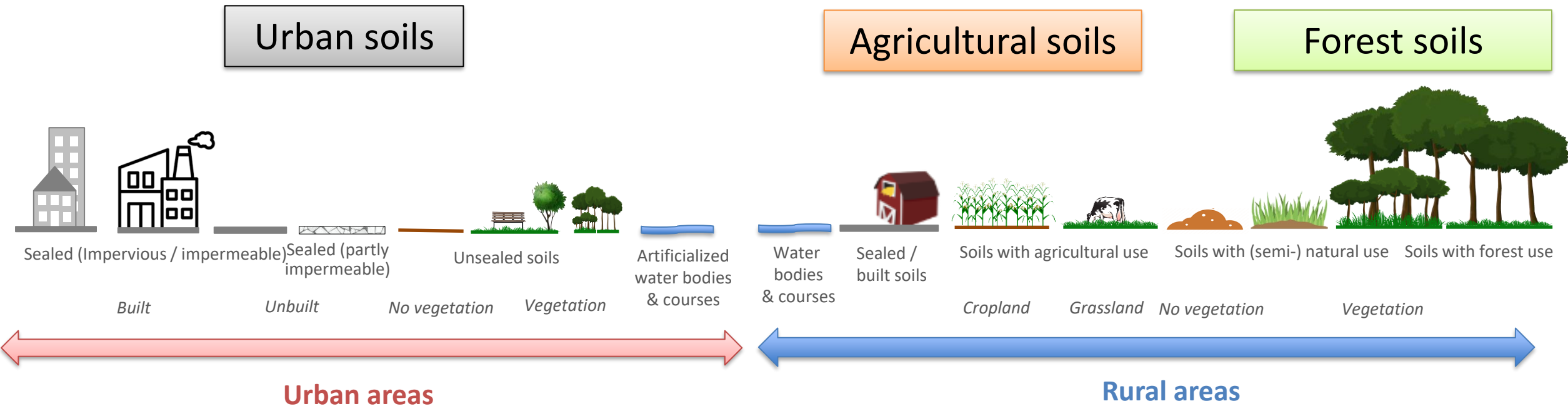
Nature restoration

- ✓ Preserving “soil quality” (not defined) and its functions, preventing “soil threats/degradation” and remediating degraded soils
- ✓ Promoting sustainable soil management,
⇒ but 90% is **focusing on soil pollution** (incl. excavated soil)
⇒ **No dedicated guidance for soil health**, rather scattered sectoral guidances

3 – Status of soil threats and ecosystem services in Wallonia



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Provision of basis for life and biodiversity (including habitats, species & genes) [1]

Provision of food & biomass production [2]

Absorption/storage/filtration of water and nutrients/substances transformation [3]

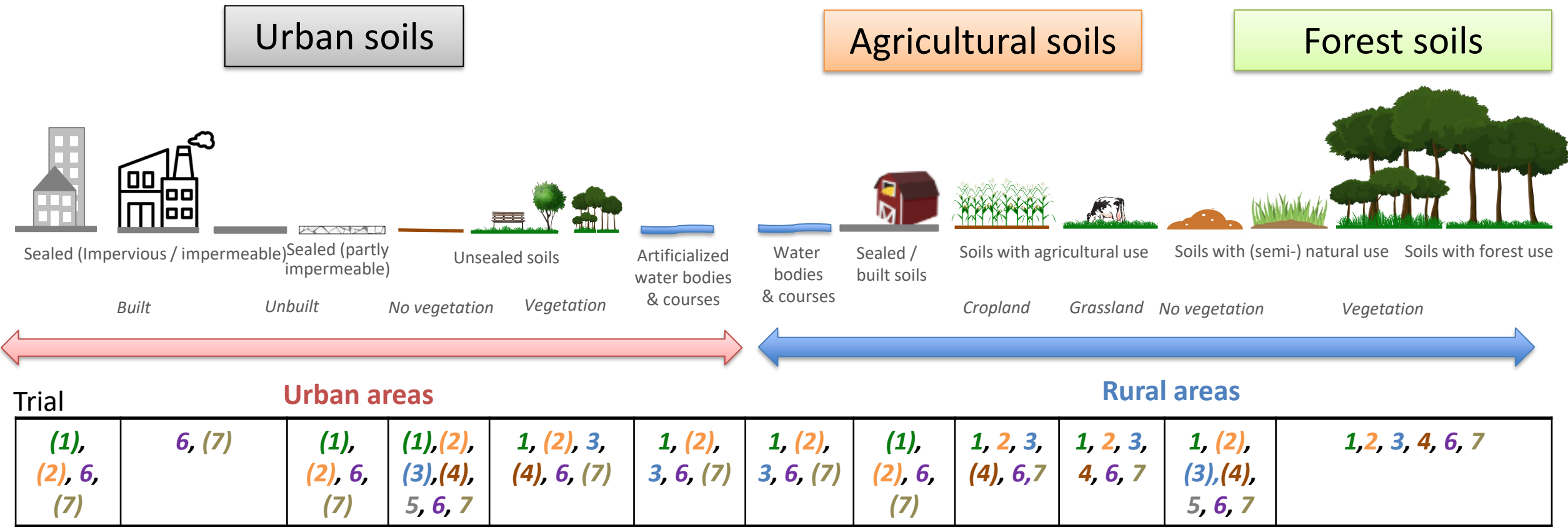
Acting as a carbon reservoir [4]

Acting as a source of raw materials [5]

Provision of physical platform & cultural services for humans and their activity [6]

Archiving geological, geomorphological & archaeological heritage [7]

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4 – Actions taken and to be developed

1) Existing actions => *No soil strategy / soil plan as such, rather sectoral policies & increased transversality*

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4 – Actions taken and to be developed

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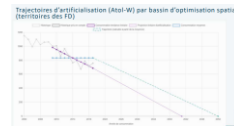
Forest soils

Artificialisation (land take + soil sealing + other), pollution (point-source & diffuse), biodiversity, water cycle, compaction, salinisation

New regional development plan (SDT) (April 2024)
defines spatial **strategy** for Wallonia and sets 2 targets:

1. *Reach No Net Land Take by 2050*

=> one trajectory of zero net artificialisation per zone



2. *Reach a production of at least 3 out of every 4 new dwellings in “central areas”*

=> one trajectory of urban sprawl per zone

Concept of **centrality & open ground coefficient** (link to soil sealing)

- ✓ no construction (including in subsoil)
- ✓ no artificial material
- ✓ allowing soil to ensure its functions & ecosystem services



4 – Actions taken and to be developed

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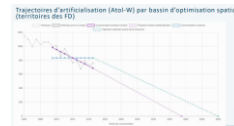
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Agricultural soils

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Management of soil pollution:

- Soil status database (BDES)
- Excavated soil management (Walterre)
- Oil tanks pollution fund (PROMAZ)
- Urban gardening on (potentially) polluted soils (SANISOL)
- PFAS investigations (ZIP, soil and organic materials including sewage sludge)

Green areas :

- Biodiversity (MAYA plan, Yes we Plant)

Waste management:

- Strategy Circular Wallonia, Waste-Resource Plan

Water management:

- PFAS monitoring, sustainable management of rainwaters

4 – Actions taken and to be developed

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Artificialisation, erosion, organic matter decline, compaction,
nutrient (excess), biodiversity, water cycle, diffuse pollution

Common Agricultural Policy:

- GAEC (5) **Management of tillage** to reduce the risk of **soil degradation and erosion**, (6) **Minimum soil cover** to avoid bare soil in the most sensitive periods (New for 2024), (7) **Crop rotation** on arable land
- Eco-schemes **long soil cover**, environmentally **friendly crops**, **ecological network**, **reduction of inputs**, **permanent grassland** conditioned on livestock load (all New for 2024)
- AECM Developed plots (MC7), Grassed headlands (MB5), Fodder autonomy (MB13) and **Soil (MR14)** (all New for 2024), Agro-environmental Action Plan (MC10)
- Aid for productive and non-productive investments (including in rural areas)
- Organic farming strategy, cooperation for innovation, AKIS

Recovery of organic material & fertilisers:

- **Certification of use** for organic wastes (composts, digestates, sewage sludge, ...)

Water management:

- River-based Management Plans (RBMP),
- Flood Risk Management Plans (FRMP),
- Walloon Pesticide Reduction Programme (PWRP),
- Sustainable Nitrate management Plan (PGDA)

Renewable energy from biomass :

- Sustainable criteria for biomass, **soil quality & management plan**

4 – Actions taken and to be developed

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Acidification, erosion, compaction, nutrient (depletion), biodiversity, water cycle, diffuse pollution

Common Agricultural Policy:

- Investments for forestry work companies and logging companies (measure 353)
- Investments in silvicultural infrastructure linked to climate change (forest services - 357)

Certification of forests:

- PEFC, (FSC)

Renewable energy from biomass :

- Sustainable criteria for biomass, soil quality preservation

4 – Actions taken and to be developed

2) Policy orientations => *Regional Political Declaration (2024 – 2029)*

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Environment Water Waste Soil
permits code decree decree

- Ensuring that the territorial development takes into account **spatial optimisation** (new land planning policy) based on **no net land take by 2050** target and the implementation of **centrality concept** to reduce urban sprawl and limit soil sealing with the application of the “**avoid – reduce – compensate**” principle ;

4 – Actions taken and to be developed

2) Policy orientations => *Regional Political Declaration (2024 – 2029)*

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Environment permits Water code Waste decree **Soil decree**

- Gathering **knowledge on soil status**, including with research bodies in charge of forestry and agriculture in order to have a regularly updated overall vision and data objectives of soil status;
- Refining of data on soil biological status, humus, carbon levels, and the different soil pollution including PFAS and emerging pollutants in order to build **targeted policies by sector** to improve practices and management of soils, including in agricultural soils;

4 – Actions taken and to be developped

2) Policy orientations => *Regional Political Declaration (2024 – 2029)*

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- Establishing **areas with prior environmental studies** – reassessed regularly - in order to facilitate subsequent individual procedures **for economic development**. The remediated areas or areas whose environmental state is already known are primarily concerned. SPAQuE will be responsible for providing the necessary expertise for the definition of these zones;
- **Accelerating polluted soil remediation & rehabilitation of wastelands** by simplifying procedures reallocation of sites (permit requests, etc.);
- Ensuring **creation of sites receiving excavated soils** and **evaluating legislation** in order to improve its efficiency and reduce the financial and administrative burden on the stakeholders concerned;

4 – Actions taken and to be developed

2) Policy orientations => *Regional Political Declaration (2024 – 2029)*

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decree**

- **Evaluating the soil decree as part of the evolution of European legislations, especially the currently discussed Soil Monitoring Law proposal, and with regard to elements of public health and conservation and restoration of natural environments**

4 – Actions taken and to be developed

3) Developments

=> *Walloon Recovery Plan - Soil projects (9,25 Mo€ ; 2022 – 2026)*



4 – Actions taken and to be developed

3) Developments

=> *Walloon Recovery Plan - Soil projects (9,25 Mo€ ; 2022 – 2026)*

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Remote sensing
& GHG inventory

- Project 116 : **Time series acquisition of soil data through IT**
- Project 114 : **Carbon Stocks**

Land take &
soil sealing

- Project 119 : **Complementary development, mapping and analysis of land take and soil sealing**
- Project 120 : **Technical implementation of soil sealing limitation on test areas**

➤ Project 115 : **Soil quality**

- *Activity 1: **Monitor soil quality** and improve knowledge **biological soil quality***
- *Activity 2: Develop an **integrated soil quality indicator (IQSW)***
- *Activity 3: Strengthening **advisory sectors** (capacity) and **subsidies** for soil analyses*

➤ Project 117 : Strengthening advisory sector (**good practices**)

➤ Project 118 : **Reinforcement of capacity** for subsidy system & soil analyses (**laboratories**)

soil quality,
monitoring
network dvpt,
advisory system
and incentives

4 – Actions taken and to be developed

3) Developments => *Other projects*



- Research project focusing on **soil pollution** (running)
 - *emerging contaminants (recommendations for soil investigations and soil analyses), PFAS focus (development of norms, investigations in priority intervention zones, studies to determine levels in soils and fertilisers, evaluation of temporary measures set for sewage sludge)*
 - *diffuse pollution (background concentration, new legislation for the use of fertilisers)*
 - *risk assessment, environment & health approaches (linking soil pollution and HBM)*
 - *Voluntary certification for authorized installations in charge of excavated soils (“Certiterria”)*
- **Technical Support Instrument (TSI)** run by DG REFORM to provide support to public authorities, project submitted for BE (together with AT, CZ, DE, DK, IE, LV, NL, PT) to work **on SML monitoring design** (results of the yearly call in March 2025)

5 – Conclusions

- Soil health is not yet defined in regional soil legislation, but SML is triggering this concept
- Soil health issue is linked to various sectoral policies and covers all type of land uses such that higher transversality is needed, together with increased transdisciplinarity & expertise within stakeholders to overcome scattered soil-relevant communities
- From soil degradation to soil ecosystem services provision
- Political will is the key
- Soil dedicated push through the Walloon Recovery Plan and other research projects in order to anticipate SML



Thank you for your attention !

