



The LifeWatch ERIC Biodiversity
& Ecosystem eScience Conference

PLOVDIV, BULGARIA

7-10 JULY 2026



Interreg
Europe



Co-funded by
the European Union

NATUREM

Nature-based remediation solutions for persistent organic pollutants (POPs) contamination

Presenter: Yoanna Ivanova – Regional Cluster

North-East

09 July 2026





EU Soil Strategy for 2030:
towards healthy soils for people and the planet

17 November 2021
#EUGreenDeal

Frans Timmermans, Executive Vice-President for the European Green Deal
"The thin layer that lies below our feet is literally the basis for our existence. It is the foundation for 95% of the food we eat. Soil is a living ecosystem that is key for life on the planet and that holds our future. It is high time it gets the legal protection it deserves."

Virginijus Sinkevičius, Commissioner for the Environment, Oceans and Fisheries
"Our ambition to make all soils healthy by 2050 is essential to fight climate change, ensure our forests are healthy, our water clean and our land rich, fertile and resilient. We are taking decisive action to protect and nurture this non-recoverable natural resource, which we cannot afford to lose."

Healthy soils are essential for achieving climate neutrality, a clean and circular economy, reversing biodiversity loss, providing healthy food, safeguarding human health, and halting desertification and land degradation.

The Soil Strategy Vision for 2050:
All EU soil ecosystems are healthy and more resilient and can therefore continue to provide their crucial services. There is no further land take and soil pollution is reduced to levels that are no longer harmful to people's health or ecosystems. Protecting

The new EU Soil Strategy:

- Sets out a framework and concrete measures for the protection, restoration and sustainable use of soils, in synergy with other European Green Deal policies.
- Announces a new **Soil Health Law** by 2023 to ensure a level playing field and a high level of environmental and health protection, complementing the upcoming Nature Restoration Law.
- Sets a vision and objectives to achieve healthy soils by 2050 with concrete actions by 2030.



Why it's important

Soil is an essential ecosystem containing more than 25% of all living organisms on the planet. Soil provides food, biomass and fibres, regulates water, carbon and nutrient cycles, making life possible. We have to grant it the same level of protection as air and water.

Healthy soils are a key ally in the fight against climate change: they are the largest terrestrial carbon pool in the planet. By absorbing and retaining water they reduce the risk of flooding, heat waves and drought.

Soil degradation erodes less of ecosystem services which are estimated at around € 38 billion per year in the EU. Erosion alone costs European farmers € 1.25 billion per year.

70%
organic matter decline
salinization and soil sealing
unsustainable land use
overexploitation
pollution
loss of biodiversity

30%

Key actions in the Soil Strategy

- To make Sustainable Soil Management the new normal:**
 - Propose a scheme for land owners to get their soils tested for free
 - Promote sustainable soil management through the Common Agricultural Policy and share best practices
- To boost circular economy:**
 - Investigate streams of excavated soils and consider proposing a 'soil passport'
 - Integrate a 'land take hierarchy' to enhance reuse of land and less use of new land, reaching no net land take by 2050
- Restore degraded soils and remediate contaminated sites**
- Act to prevent desertification**
 - Increase research, data and monitoring on soil
- To mitigate and adapt to climate change, consider proposing legally binding objectives to halt the drainage of wetlands and organic soils, and to restore managed and drained peatlands**
- Mobilise the necessary societal engagement and financial resources**

The EU Soil Strategy 2030 is anchored in the EU Biodiversity Strategy and the Climate Adaptation Strategy. Objectives are to make significant progress in the remediation of contaminated sites in 2030 and to reduce soil pollution to levels no longer harmful to human health and ecosystems in 2050. It mentions orphan-contaminated sites (where polluter no longer exists) as a relevant issue to solve.

Nature-based remediation solutions for persistent organic pollutants contamination - NATUREM project addresses the implementation of the Soil Strategy in soils polluted by POPs. Conventional methods for POPs elimination (pump and treat, land disposal, thermal treatment) involve huge costs for not sustainable nor definitive methods, which thus go against the principles of the Soil Strategy. NATUREM contributes to the objectives of the Soil Strategy by incorporating sustainable soil remediation solutions in public policies in Spain, Germany, France, Bulgaria, Czech Republic, Luxembourg, Finland, Albania, North Macedonia.



- POPs and HCH soil and water pollution has a negative effect on the economic and social development of regions and their environment. NATUREM's philosophy is to cooperate among as many committed regions as possible to help each other to control and solve the mentioned soil pollution problem.
- Due to different factors, some regions have progressed further in POPs and HCH soil and water remediation than others, very specially in the effective application of soil remediation technologies for restoring soils to healthy conditions no longer harmful for the human health and environment.
- The project will be a framework for regions to learn from each other and achieve the same progress status on the sites restoration, with a direct benefit on the quality of groundwater, biodiversity and Health policies. It also contributes to other EU policies on innovation, research, and sustainability

Sustainable development

- As mentioned in the EU soil strategy, halting and reversing current trends of soil degradation could generate up to EUR 1.2 trillion per year in economic benefits globally. The cost of inaction on soil degradation goes beyond the economic calculation; it would not only lead to fertility loss comprising
- global food security but also impact the quality of products and their nutritional value.
- The benefits of healthy soils are:
 - ·provide food and biomass production, including in agriculture and forestry;
 - ·absorb, store, and filter water and transform nutrients and substances, thus protecting groundwater bodies;
 - ·provide the basis for life and biodiversity, including habitats, species, and genes;
 - ·act as a carbon reservoir;
 - ·provide a physical platform and cultural services for humans and their activities;
 - ·act as a source of raw materials;
 - ·constitute an archive of geological, geomorphological, and archaeological heritage.

Main policy instruments addressed

- 1 (Spain) Aragón ERDF 2021-27 Operational Programme - Gobierno de Aragón
- 2 4th National Environmental Health Plan 2021-2025 - Ministry of Ecological Transition and Territorial Cohesion – France
- (Germany) CAP-Strategic Plan for the Federal Republic of Germany 2023-27, EAFRD Saxony-Anhalt - Ministry of Science, Energy, Climate Protection and Environment of Saxony-Anhalt
- (Bulgaria) National Program for preservation, sustainable use, and recovery of the functions of the soils
- Strategic development document of the town of Hroznětín for the period 2023 – 2026 - City of Hroznětín - Czech Republic
- National plan for waste management of Republic of North Macedonia 2021-2031 - Ministry of environment and physical planning
- (Finland) National Implementation Plan (NIP) for Stockholm Convention - Finnish Environment Institute (SYKE)

Pilot actions

PILOT PROJECT FOR THE DECONTAMINATION AND ENVIRONMENTAL RESTORATION OF AN AREA DEGRADED BY THE DUMPING OF LINDANE MANUFACTURING

- (Spain) Aragón ERDF 2021-27 Operational Programme
POLITICAL OBJECTIVE 2.SPECIFIC OBJECTIVE VII.
- (France) 4th National Environmental Health Plan 2021-2025, Axis 2-Action 10 "Reduce environmental exposures affecting human health and that of the ecosystems"

VALIDATION OF PHYTO-TECHNIQUES FOR PERSISTENT POLLUTANTS MONITORING AND REMEDIATION

- (Germany) CAP-Strategic Plan for the Federal Republic of Germany 2023-27, EAFRD Saxony-Anhalt, EL-0401: non-productive investment in water management
- (Czech Republic) Strategic development document of the town of Hroznětín for the period 2023 - 2026

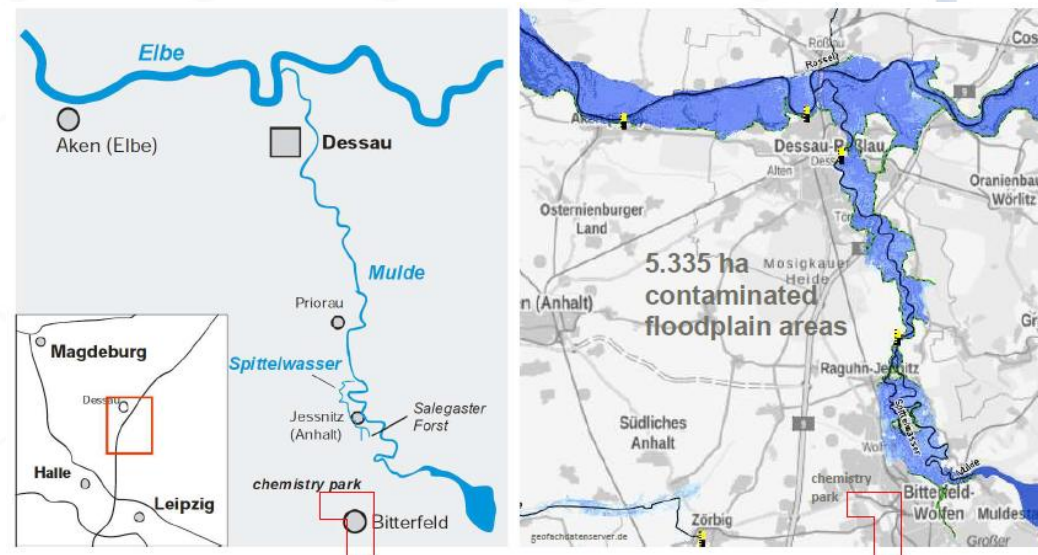
The Grand-East region (France) will participate in this pilot action and develop it in their region in a latter project stage, to treat materials, autochthone soils and groundwater contaminated by HCH compounds in a landfill of the Alsace region.



VALIDATION OF PHYTO- TECHNIQUES FOR PERSISTENT POLLUTANTS MONITORING AND REMEDIATION

In this pilot, plants will be used for other (non-HCH) persistent organic pollutants detection in water, soil, and sediment and the concept of phytoremediation will be confirmed. Approx. 10 plant species will be selected throughout European climatic zones as model phytoindicators.

The emphasis will be put on interspecies differences, seasonality variations, and methodological aspects of phytoremediation so that a comprehensive "European handbook of pollutant phytoindication and phytoremediation" can be compiled at the project's end.





The LifeWatch ERIC Biodiversity
& Ecosystem eScience Conference
PLOVDIV, BULGARIA 7-10 JULY 2026

THANK YOU!

Questions?

Regional Cluster North-East

rc_ne@abv.bg

