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**INFORMATION NOTE**

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| From: | General Secretariat of the Council |
| To: | Permanent Representatives Committee/Council |
| Subject: | Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Soil Monitoring and Resilience (Soil Monitoring Law)<br>- Outcome of the European Parliament's first reading<br>(Brussels, 10-11 April 2024) |

## I. INTRODUCTION

The rapporteur, Martin HOJSÍK (RE, SK), presented a report on the above proposal for a Directive on behalf of the Committee on the Environment, Public Health and Food Safety (ENVI) which contained 216 amendments (amendments 1 to 216) to the proposal.

In addition, the Renew group tabled one amendment (amendment 217), a number of MEPs from different political groups tabled 18 amendments (amendments 218 to 234 and 245), the ID group tabled three amendments (amendments 235 to 237), the Greens/EFA group tabled six amendments (amendments 238 to 244), the Committee on Agriculture and Rural Development (AGRI) tabled 19 amendments (amendments 246 to 264) and the ECR group tabled three amendments (amendments 265 to 267).

## II. VOTE

When it voted on 10 April 2024, the plenary of the European Parliament adopted amendments 1 to 35, 37 to 50, 52 to 61, 63 to 66, 68 to 74, 76 to 83, 85 to 94, 95 parts 1 and 2, 96 to 108, 110 to 113, 120 to 169, 171 to 180, 186 to 202, 214 to 217, 221, 224, 226 to 228, 231, 232, 234, 247 to 252, 254, 260 and 266 to the proposal for a Directive. Amendments 107 and 240 were cancelled. No other amendments were adopted.

The Commission's proposal as thus amended constitutes the Parliament's first-reading position which is contained in its legislative resolution as set out in the Annex hereto.

**P9_TA(2024)0204**

# Soil Monitoring and Resilience (Soil Monitoring Directive)

**European Parliament legislative resolution of 10 April 2024 on the proposal for a directive of the European Parliament and of the Council on Soil Monitoring and Resilience (Soil Monitoring Law) (COM(2023)0416 – C9-0234/2023 – 2023/0232(COD))**
**(Ordinary legislative procedure: first reading)**

*The European Parliament*,

– having regard to the Commission proposal to Parliament and the Council (COM(2023)0416),

– having regard to Article 294(2) and Article 192(1) of the Treaty on the Functioning of the European Union, pursuant to which the Commission submitted the proposal to Parliament (C9-0234/2023),

– having regard to Article 294(3) of the Treaty on the Functioning of the European Union,

– having regard to the reasoned opinion submitted, within the framework of Protocol No 2 on the application of the principles of subsidiarity and proportionality, by the Netherlands Senate and the Netherlands House of Representatives asserting that the draft legislative act does not comply with the principle of subsidiarity,

– having regard to the opinion of the European Economic and Social Committee of 25 October 2023[1],

– after consulting the Committee of the Regions,

– having regard to Rule 59 of its Rules of Procedure,

– having regard to the opinion of the Committee on Agriculture and Rural Development,

– having regard to the report of the Committee on the Environment, Public Health and Food Safety (A9-0138/2024),

1. Adopts its position at first reading hereinafter set out;

2. Calls on the Commission to refer the matter to Parliament again if it replaces, substantially amends or intends to substantially amend its proposal;

3. Instructs its President to forward its position to the Council, the Commission and the national parliaments.

[1] OJ C, C/2024/887, 6.2.2024, ELI: http://data.europa.eu/eli/C/2024/887/oj.

**Amendment 1**
**Proposal for a directive**
**Recital 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (2) Healthy soils are in good chemical, biological and physical condition so that they can provide ecosystem services that are vital to humans and the environment, such as safe, nutritious and sufficient food, biomass, clean water, nutrients cycling, carbon storage and a habitat for biodiversity. However, 60 to 70 % of the soils in the Union are deteriorated and continue to deteriorate. | (2) Healthy soils are in good chemical, biological and physical condition so that they can provide ecosystem services that are vital to humans and the environment, such as safe, nutritious and sufficient food, biomass, clean water, nutrients cycling, carbon storage and a habitat for biodiversity. ***Soil is essential to ensuring food security.*** However, ***it is estimated that*** 60 to 70 % of the soils in the Union are deteriorated and continue to deteriorate. |

**Amendment 2**
**Proposal for a directive**
**Recital 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (3) Soil degradation is costing the Union several tens of billion euro every year. Soil health is impacting the provision of ecosystem services that have an important economic return. ***Sustainable management and regeneration of soils therefore*** makes sound economic sense and can significantly increase the price and value of the land in the Union. | (3) Soil degradation is costing the Union several tens of billion euro every year. Soil health is impacting the provision of ecosystem services that have an important economic return. ***Its improvement*** makes sound economic sense and can significantly increase the price and value of the land in the Union. ***Moreover, it can take up to 1 000 years to produce just 1 centimetre of top soil, while the degradation process and complete loss of soil can happen rapidly.*** |

**Amendment 3**
**Proposal for a directive**
**Recital 11**

| *Text proposed by the Commission* | *Amendment* |
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|---|---|
| (11) Funding is vital to enable a transition to healthy soils. The Multiannual Financial Framework presents several funding opportunities available for the protection, sustainable management and regeneration of soils. A 'Soil Deal for Europe' is one of the five EU missions of the Horizon Europe programme and is specifically dedicated to promoting soil health. The Soil Mission is a key instrument for the implementation of this Directive. It aims to lead the transition to healthy soils through funding an ambitious research and innovation programme, establishing a network of 100 living labs and lighthouses in rural and urban areas, advancing the development of a harmonized soil monitoring framework and increasing the awareness of the importance of soil. Other Union programmes that present objectives contributing to healthy soils are the Common Agricultural Policy, the Cohesion Policy funds, the Programme for Environment and Climate Action, the Horizon Europe work programme, the Technical Support Instrument, the Recovery and Resilience Facility and InvestEU. | (11) Funding is vital to enable a transition to healthy soils. The Multiannual Financial Framework presents several funding opportunities available for the protection, sustainable management and regeneration of soils. A 'Soil Deal for Europe' is one of the five EU missions of the Horizon Europe programme and is specifically dedicated to promoting soil health. The Soil Mission is a key instrument for the implementation of this Directive. It aims to lead the transition to healthy soils through funding an ambitious research and innovation programme, establishing a network of 100 living labs and lighthouses in rural and urban areas, advancing the development of a harmonized soil monitoring framework and increasing the awareness of the importance of soil. Other Union programmes that present objectives contributing to healthy soils are the Common Agricultural Policy, the Cohesion Policy funds, the Programme for Environment and Climate Action, the Horizon Europe work programme, the Technical Support Instrument, the Recovery and Resilience Facility and InvestEU. ***As the goal to have all soils within the Union in healthy status is of common interest, there is a need to increase the mobilisation of resources to support the uptake of sustainable soil management and regenerative practices, including through provision of support from the European Investment Bank via de-risking mechanisms. The Commission should assess the overall financial needs and gaps and if needed put in place for the post-2027 period additional financial resources under the Multiannual Financial Framework and adopt measures to ensure policy coherence in relation to the objectives of this Directive.*** |

**Amendment 4**
**Proposal for a directive**
**Recital 12**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (12) The Soil Strategy for 2030 announced that the Commission would table a legislative proposal on soil health to enable the objectives of the Soil Strategy and to achieve good soil health across the EU by 2050. In its resolution of 28 April 2021 on soil protection[42] , the European Parliament emphasised the importance of protecting soil and promoting healthy soils in the Union, bearing in mind that the degradation continues, despite the limited and uneven action being taken in some Member States. The European Parliament called on the Commission to design a Union wide common legal framework, with full respect for the subsidiarity principle, for the protection and sustainable use of soil, addressing all major soil threats. | (12) The Soil Strategy for 2030 announced that the Commission would table a legislative proposal on soil health to enable the objectives of the Soil Strategy and to achieve good soil health across the EU by 2050. In its resolution of 28 April 2021 on soil protection[42] , the European Parliament emphasised the importance of protecting soil and promoting healthy soils in the Union, bearing in mind that the degradation continues, despite the limited and uneven action being taken in some Member States. The European Parliament called on the Commission to design a Union wide common legal framework, with full respect for the subsidiarity principle, for the protection and sustainable use of soil, addressing all major soil threats. ***Importantly, the European Parliament underlined the risks stemming from the absence of a level playing field between Member States and their different protection regimes for soil to the functioning of the internal market and the strong potential to stimulate fair competition in the private sector, develop innovative solutions and know-how and strengthen the export of technologies outside the Union.*** |
| [42] European Parliament resolution of 28 April 2021 on soil protection (2021/2548(RSP)). | [42] European Parliament resolution of 28 April 2021 on soil protection (2021/2548(RSP)). |

**Amendment 5**
**Proposal for a directive**
**Recital 18**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (18) It is ***necessary*** to set measures for monitoring and ***assessing*** soil health, managing soils sustainably and tackling contaminated sites to achieve healthy soils by 2050, to maintain them in healthy | (18) It is ***vital*** to set ***appropriate*** measures for ***Union-wide harmonised*** monitoring and ***assessment of*** soil health, managing soils sustainably and tackling contaminated sites to achieve healthy soils by 2050, to |

condition and meet the Union's objectives on climate and biodiversity, to prevent and respond to droughts and natural disasters, to protect human health and to ensure food security and safety.

maintain them in healthy condition and meet the Union's objectives on climate and biodiversity, to prevent and respond to droughts and natural disasters, to protect human health and to ensure food security and safety.

**Amendment 6**
**Proposal for a directive**
**Recital 19**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (19) Soils host more than 25% of all biodiversity and are the second largest carbon pool of the planet. Due to their ability to capture and store carbon, healthy soils contribute to the achievement of the Union's objectives on climate change. Healthy soils also provide a favourable habitat for organisms to thrive and are crucial for enhancing biodiversity and the stability of ecosystems. Biodiversity below and above ground are intimately connected and interact through mutualistic relationships (e.g. mycorrhizal fungi that connect plant roots). | (19) Soils host more than 25% of all biodiversity and are the second largest carbon pool of the planet. Due to their ability to capture and store carbon, healthy soils contribute to the achievement of the Union's objectives on climate change. ***Soil biodiversity encompasses micro-organisms, including bacteria, fungi, protozoa and nematodes, as well as larger organisms such as earthworms, insects, and plant roots, which collectively contribute to the ecological and functional diversity of soil ecosystems.*** Healthy soils also provide a favourable habitat for organisms to thrive and are crucial for enhancing biodiversity and the stability of ecosystems. Biodiversity below and above ground are intimately connected and interact through mutualistic relationships (e.g. mycorrhizal fungi that connect plant roots). |

**Amendment 7**
**Proposal for a directive**
**Recital 19 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(19a) Soil organic matter is crucial for the provision of soil ecosystem services and functions, by reducing soil degradation, erosion and compaction, while increasing the buffering, water holding and cation exchange capacity of the soil and soil*** |

***organic carbon, which ultimately could increase crop yields. Additionally, soil organic matter positively affects soil biodiversity and could increase the carbon sequestered in soils, thereby contributing to climate change mitigation.***

**Amendment 8**
**Proposal for a directive**
**Recital 21 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(21a) Per- and polyfluoroalkyl substances (PFAS) have been frequently observed to contaminate groundwater, surface water as well as soil. They can alter soil properties and structures, with some of the reported effects including a decrease in soil respiration and water stable aggregates, and an increase in soil pH.*** |

**Amendment 9**
**Proposal for a directive**
**Recital 22**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (22) Soil degradation impacts fertility, yields, pest resistance and nutritional food quality. Since 95 % of our food is directly or indirectly produced on soils and the global population continues to increase, it is key that this finite natural resource remains healthy to ensure food security in the long-term and secure the productivity and profitability of Union agriculture. Sustainable soil management practices maintain or enhance soil health and contribute to the sustainability and resilience of the food system. | (22) Soil degradation impacts fertility, yields, pest resistance and nutritional food quality. Since 95 % of our food is directly or indirectly produced on soils and the global population continues to increase, it is key that this finite natural resource remains healthy to ensure food security in the long-term and secure the productivity and profitability of Union agriculture. Sustainable soil management practices***, including those set out by the common agricultural policy,*** maintain or enhance soil health and contribute to the sustainability and resilience of the food system. ***Reducing nutrient losses and pesticide residues are essential in this respect.*** |

**Amendment 10**
**Proposal for a directive**
**Recital 23**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (23) The long-term objective of the Directive is to achieve healthy soils by 2050. As an intermediate step, in light of the limited knowledge about the condition of soils and about the effectiveness and costs of the measures to regenerate their health, the directive takes a staged approach. In the first stage the focus will be on setting up the soil monitoring framework and assessing the situation of soils throughout the EU. ***It also includes requirements to lay down measures to manage soils sustainably and regenerate unhealthy soils once their condition is established, but without imposing an obligation to achieve*** healthy soils by 2050 ***neither intermediate targets***. This proportionate approach will allow sustainable soil management and regeneration of ***unhealthy*** soils to be well prepared, incentivised and set in motion. In a second stage, as soon as the results of the first assessment of soils and trends analysis are available, the Commission will take stock of the progress towards the 2050 objective and the experience thereof, and will propose a review of the directive if necessary to ***accelerate progress towards 2050***. | (23) The long-term objective of the Directive is to achieve healthy soils ***across the Union*** by 2050. As an intermediate step, in light of the limited knowledge about the condition of soils and about the effectiveness and costs of the measures to regenerate their health, the directive takes a staged approach. In the first stage the focus will be on setting up the soil monitoring framework and assessing the situation of soils throughout the EU. ***Member States should define sustainable soil management practices taking into account the non-binding principles set in Annex III to this Directive. The Member States are given the flexibility to decide on the concrete practices to be implemented, when appropriate, reflecting local conditions and its feasibility, in order to facilitate achieving*** healthy soils by 2050. This proportionate approach will allow sustainable soil management and regeneration of soils ***that are not healthy*** to be well prepared, incentivised and set in motion. In a second stage, as soon as the results of the first assessment of soils and trends analysis are available, the Commission will take stock of the progress towards the 2050 objective and the experience thereof, and will propose a review of the directive if necessary to ***meet the 2050 goal***. |

**Amendment 11**
**Proposal for a directive**
**Recital 24**

| *Text proposed by the Commission* | *Amendment* |
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| (24) Addressing the pressures on soils and identifying the appropriate measures to maintain or regenerate soil health requires | (24) Addressing the pressures on soils and identifying the appropriate measures to maintain or regenerate soil health requires |

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| that the variety of soil types, the specific local and climatic conditions and the land use or the land cover is taken into account. It is therefore appropriate that Member States establish soil districts. Soil districts should constitute the basic governance units to manage soils and to take measures to comply with the requirements laid down in this Directive, in particular with regard to the monitoring and assessment of soil health***. The number, geographic extent and boundaries of soil districts for each Member State should be determined in order to facilitate the implementation of Regulation (UE) …/…. of the European Parliament and of the Council***+. There should be a minimum number of soil districts in each Member State taking into account the size of the Member State. This minimum number of soil districts for each Member State shall correspond to the number of NUTS 1 territorial units established in Regulation (EC) No 1059/2003 of the European Parliament and of the Council[48]. | that the variety of soil types, the specific local and climatic conditions and the land use or the land cover is taken into account. It is therefore appropriate that Member States establish soil districts ***that are capable of adequately reflecting pedoclimatic conditions and soil variety on their whole territory***. Soil districts should constitute the basic governance units to manage soils and to take measures to comply with the requirements laid down in this Directive, in particular with regard to the monitoring and assessment of soil health. There should be a minimum number of soil districts in each Member State taking into account the size of the Member State. This minimum number of soil districts for each Member State shall correspond to the number of NUTS 1 territorial units established in Regulation (EC) No 1059/2003 of the European Parliament and of the Council[48]***:Member States can decide to set up their soil districts according to their number of NUTS 2 territorial units in order to better reflect their local conditions and the competences of their national authorities.*** |
| ***+OP please insert in the text the number of the Regulation on the carbon removal certification contained in document COM(2022) 672 final and insert the number, date, title and OJ reference of that Directive in the footnote.*** | |
| [48] Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS) (OJ L 154, 21.6.2003, p. 1). | [48] Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS) (OJ L 154, 21.6.2003, p. 1). |

**Amendment 12**
**Proposal for a directive**
**Recital 24 a (new)**

| *Text proposed by the Commission* | *Amendment* |
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***(24a) Soil districts are the most appropriate level for adopting programmes of measures and, where necessary, intermediate targets, including via local soil district plans, taking into account local conditions and the views of local stakeholders, to ensure that the respective soils improve their classification. As it takes more time to restore critically degraded soils, a sufficient timeline of up to 10 years should be given to ensure that their ecological classification improves. Soils registered as contaminated that are covered by specific management and mitigation plans could be subject to a different timeline.***

**Amendment 13**
**Proposal for a directive**
**Recital 25**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (25) In order to ensure an appropriate governance on soils, Member States should be required to appoint a competent authority for each soil district. Member States should be allowed to appoint any additional competent authority at appropriate level including at national or regional level. | (25) In order to ensure an appropriate governance on soils, Member States should be required to appoint a competent authority for each soil district. Member States should be allowed to appoint any additional competent authority at appropriate level including at national or regional level***, including across territories of Member States***. ***In order to minimise costs, Member States should primarily appoint authorities that are already set up. One authority could be responsible for several areas, which could improve consistency in the implementation of this Directive. In the event that Member States change the allocation of competences among competent authorities, they should communicate those changes to the Commission to keep the information up to date.*** |

**Amendment 14**
**Proposal for a directive**
**Recital 27**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (27) In order to ***describe soil degradation it is necessary to establish soil*** descriptors ***that can be measured or estimated. Even if there is significant variability between soil types,*** climatic conditions and ***land uses, the current scientific knowledge allows to set criteria at Union level for some of those soil descriptors. However,*** Member States should ***be able to adapt the criteria for some of these soil descriptors based on specific national or local conditions and define the criteria for other*** soil descriptors for ***which common criteria at EU*** level ***cannot be established at this stage. For those descriptors for*** which ***clear criteria that would distinguish between healthy and unhealthy condition cannot be identified now, only monitoring and assessment are*** required***. This will facilitate the development of such criteria in future***. | (27) In order to ***provide for a common framework and to allow for comparability of data, the Commission should by means of delegated acts, adopt a methodology for determining threshold values for soil*** descriptors ***for each soil ecological status. It is important that this methodology take into account the most recent scientific evidence and provide for means to account for different*** climatic conditions and ***types of soil. Using this methodology*** Member States should ***identify draft threshold values for*** soil descriptors for ***each soil ecological status taking into consideration climate conditions, the type of soil, type of land area and scientific evidence and submit them to the Commission. In order to ensure a*** level ***playing field among Member States and to avoid Member States adopting threshold values*** which ***allow similar soil to be categorised in a very different manner, thereby affecting the efforts*** required ***to improve its soil ecological status, the Commission should assess the draft threshold values and their scientific justification. The Commission should be able to ask Member States for additional information or revision of their draft threshold values***. ***The Commission should approve the threshold values, provided that its observations have been adequately taken into account.*** |

**Amendment 15**
**Proposal for a directive**
**Recital 27 a (new)**

| *Text proposed by the Commission* | *Amendment* |
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| | ***(27a) An integrated view on the assessment of soil health that goes beyond solely looking at degradation factors and provides a clear path for its improvement is necessary. The overall assessment of soil ecological status should,*** |

***therefore, be categorised according to five classes from "high soil ecological status", "good ecological status", "moderate", "degraded soils" to "critically degraded soils", taking into consideration, inter alia, the presence of degradation factors and soil functions.***

**Amendment 16**
**Proposal for a directive**
**Recital 27 b (new)**

| *Text proposed by the Commission* | *Amendment* |
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| | ***(27b) To respect the autonomy of the Member States that are willing to implement more comprehensive monitoring systems, Member States should be able to choose among 3 monitoring tiers. Tier 1 provides a minimum set of soil descriptors. In Tier 2, 20% of the sampling points are determined according to the LUCAS programme and double sampled for continuous monitoring and the establishment of transfer functions, while the remaining 80% of the sampling points are determined by the Member State, also for continuous monitoring and following the criteria set in the annexes to this Directive. In Tiers 1 and 2, 20% of sampling points are dedicated to targeted monitoring, allowing Member States to expand risk-based assessments, conduct investigations, or target areas of particular interest. The establishment of a tiered approach increases the number of soil descriptors assessed but also the level of autonomy that Member States have in determining the thresholds associated to the ecological status of soils. The main goal of such a tiered approach is to allow all Member States to implement their monitoring systems and take advantage of any current national systems that already monitor soils. Tier 2 will allow gaps to be filled in the scope and extent of the soil descriptors considered. In Tier 3, the number of soil descriptors is expanded*** |

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| | ***further to refine particular aspects of the soil monitoring systems.*** |

**Amendment 17**
**Proposal for a directive**
**Recital 28**

| *Text proposed by the Commission* | *Amendment* |
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| ***(28) In order to create incentives, Member States should set up mechanisms to recognize the efforts of landowners and land managers to maintain the soil in healthy condition, including in the form of soil health certification complementary to the Union regulatory framework for carbon removals, and supporting the implementation of the renewable energy sustainability criteria set out in article 29 of Directive (EU) 2018/2001 of the European Parliament and of the Council[50] . The Commission should facilitate soil health certification by inter alia exchanging information and promoting best practices, raising awareness and assessing feasibility of developing recognition of certification schemes at Union level. Synergies between different certification schemes should be exploited as much as possible to reduce administrative burden for those applying for relevant certifications.*** | ***deleted*** |
| ***[50] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) (OJ L 328, 21.12.2018, p. 82).*** | |

**Amendment 18**
**Proposal for a directive**
**Recital 30**

| *Text proposed by the Commission* | *Amendment* |
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| (30) Soil is a limited resource subject to an ever-growing competition for different uses. Land take is a process often driven by economic development needs, that transforms natural and semi-natural areas (including agricultural and forestry land, gardens and parks) into artificial land development, using soil as a platform for constructions and infrastructure, as a direct source of raw material or as archive for historic patrimony. This transformation may cause the loss, often irreversibly, of the capacity of soils to provide other ecosystem services (provision of food and biomass, water and nutrients cycling, basis for biodiversity and carbon storage). In particular, land take often affects the most fertile agricultural soils, putting food security in jeopardy. Sealed soil also exposes human settlements to higher flood peaks and more intense heat island effects. Therefore, it is necessary to monitor land take and soil sealing and their effects on soil's capacity to provide ecosystem services. It is also appropriate to lay down certain principles to mitigate the impacts of land take ***as part of*** sustainable soil management. | (30) Soil is a limited resource subject to an ever-growing competition for different uses. Land take is a process often driven by economic development needs, that transforms natural and semi-natural areas (including agricultural and forestry land, gardens and parks) into artificial land development, using soil as a platform for constructions and infrastructure, as a direct source of raw material or as archive for historic patrimony. This transformation may cause the loss, often irreversibly, of the capacity of soils to provide other ecosystem services (provision of food and biomass, water and nutrients cycling, basis for biodiversity and carbon storage). In particular, land take often affects the most fertile agricultural soils, putting food security in jeopardy. Sealed soil also exposes human settlements to higher flood peaks and more intense heat island effects. Therefore, it is necessary to monitor land take and soil sealing and their effects on soil's capacity to provide ecosystem services. It is also appropriate to lay down certain principles to mitigate the impacts of land take ***complementing*** sustainable soil management. |

**Amendment 19**
**Proposal for a directive**
**Recital 31**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (31) The assessment of soil health based on the monitoring network should be accurate while at the same time keeping the costs of such monitoring at reasonable level. It is therefore appropriate to lay down criteria for sampling points that are representative of the soil condition under different soil types, climatic conditions and land use. The grid of sampling points should be determined by using geostatistical methods and be sufficiently dense to provide an estimation of the area of healthy soils, at national level, within an uncertainty of not more than 5%. This | (31) The assessment of soil health based on the monitoring network should be accurate while at the same time keeping the costs of such monitoring at reasonable level. It is therefore appropriate to lay down criteria for sampling points that are representative of the soil condition under different soil types, climatic conditions and land use. The grid of sampling points should be determined by using geostatistical methods and be sufficiently dense to provide an estimation of the area of healthy soils, at national level, within an uncertainty of not more than 5%. This |

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| value is commonly considered to provide a statistically sound estimation and reasonable assurance that the objective has been achieved. | value is commonly considered to provide a statistically sound estimation and reasonable assurance that the objective has been achieved. ***It is important that the soil monitoring methodology and framework include harmonised sampling criteria, including sampling depth.*** |

**Amendment 20**
**Proposal for a directive**
**Recital 31 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(31a) Soil archives preserve a snapshot of soils from a specific time and location, allowing Member States to use one sample for various purposes and to streamline field sampling activities, thus reducing the long-term costs of in-situ monitoring. In addition, soil archives enable researchers to re-evaluate soils of the past in the context of the present for an improved understanding of long-term soil change, or for other research purposes, including medical research. It is therefore imperative that the Commission, including services such as the Joint Research Centre (JRC), together with the Member States and the European Soil Observatory, ensure that the samples, DNA extracts and raw data taken for the compliance with Union and national environmental law are well preserved in physical archives and that the samples and raw data of those archives remain available for further research and innovation.*** |

**Amendment 21**
**Proposal for a directive**
**Recital 32**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (32) The Commission should assist and support Member States' monitoring of soil | (32) ***As a complement to existing national inventories,*** the Commission |

health by continuing to carry out and enhancing regular in-situ soil sampling and related soil measurements (LUCAS soil) as part of the Land Use/Cover Area frame statistical Survey (LUCAS) Programme. For that purpose, the LUCAS Programme ***shall*** be enhanced and upgraded to fully align it with the specific quality requirements to be met for the purpose of this Directive. In order to alleviate the burden, Member States should be allowed to take into account the soil health data surveyed under the enhanced LUCAS soil. The Member States thus supported should take the necessary legal arrangements to ensure that the Commission can carry out such in-situ soil sampling, including on privately owned fields, and in compliance with applicable national or Union legislation.

should assist and support Member States' monitoring of soil health by continuing to carry out and enhancing regular in-situ soil sampling and related soil measurements (LUCAS soil) as part of the Land Use/Cover Area frame statistical Survey (LUCAS) Programme. For that purpose, the LUCAS Programme ***should*** be enhanced and upgraded to fully align it with the specific quality requirements ***and all the descriptors*** to be met for the purpose of this Directive. In order to alleviate the burden, Member States should be allowed to take into account the soil health data surveyed under the enhanced LUCAS soil. ***LUCAS soil will sample and analyse at least 20 % of the size of national samples, thereby contributing to the monitoring carried out by Member States. The analysis by LUCAS is essential to allowing Member States to calculate and calibrate valid transfer functions in order to allow them to continue using alternative monitoring design in accordance with Tier 2. The Commission should, at the request of a Member State, provide further assistance with up to 50% of the sampling during the first national monitoring round.*** The Member States thus supported should take the necessary legal arrangements to ensure that the Commission can carry out such in-situ soil sampling, including on privately owned fields, ***with the agreement of the owners,*** and in compliance with applicable national or Union legislation.

**Amendment 22**
**Proposal for a directive**
**Recital 33**

*Text proposed by the Commission*

(33) The Commission is developing remote sensing services in the context of Copernicus as a user-driven programme, hereby also supporting Member States. In order to increase the timeliness and effectiveness of soil health monitoring, and

*Amendment*

(33) The Commission is developing remote sensing services in the context of Copernicus as a user-driven programme, hereby also supporting Member States. In order to increase the timeliness and effectiveness of soil health monitoring, and

where relevant, Member States should use remote sensing data including outputs from the Copernicus services for monitoring relevant soil descriptors and for assessing soil health. The Commission and the European Environment Agency should support exploring and developing soil remote sensing products, to assist the Member States in monitoring the relevant soil descriptors.

where relevant, Member States should use remote sensing data including outputs from the Copernicus services for monitoring relevant soil descriptors and for assessing soil health. The Commission and the European Environment Agency should support exploring and developing soil remote sensing products, to assist the Member States in monitoring the relevant soil descriptors. ***The Commission and Member States should further support the use of reliable and available digital technologies, such as electronic databases, geographic information systems, automated image identification or e-DNA, to improve knowledge sharing and transparency with regard to soil health and to reduce the costs of soil measurements and monitoring.***

**Amendment 23**
**Proposal for a directive**
**Recital 34**

*Text proposed by the Commission*

(34) Building on and upgrading the existing EU soil observatory, the Commission should establish a digital soil health data portal that should be compatible with the EU Data Strategy[50] and the EU data spaces and which should be a hub providing access to soil data coming from various sources. That portal should primarily include ***all the*** data collected by the Member States and the Commission as required by this Directive. It should also be possible to integrate in the portal, on a voluntary basis, other relevant soil data collected by Member States or any other party (and in particular data resulting from projects under Horizon Europe and the Mission 'A Soil Deal for Europe'), provided that those data meet certain requirements as regards format and specifications. Those requirements should be specified by the Commission by way of implementing acts.

*Amendment*

(34) Building on and upgrading the existing EU soil observatory, the Commission should establish a digital soil health data portal that should be compatible with the EU Data Strategy[50] and the EU data spaces and which should be a hub providing access to soil data coming from various sources. ***The soil health data should be made publicly available in a format that can be used by the research community, landowners and managers, advisors working within the farm advisory system and the public, ensuring compliance with Union law on the protection of personal data.*** That portal should primarily include ***relevant*** data collected by the Member States and the Commission as required by this Directive ***and serve as a platform for the establishment of a Sustainable Soil Management Toolbox that will provide up-to-date context-specific information about sustainable soil management***

***practices based on different soil type, land use and climatic conditions***. It should also be possible to integrate in the portal, on a voluntary basis, other relevant soil data collected by Member States or any other party (and in particular data resulting from projects under Horizon Europe and the Mission 'A Soil Deal for Europe'), provided that those data meet certain requirements as regards format and specifications. Those requirements should be specified by the Commission by way of implementing acts. ***Member States and the Commission should ensure that research institutions have easy and free access to all data at their request.***

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[50]Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a European strategy for data, COM(2020)66 final.

[50] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a European strategy for data, COM(2020)66 final.

**Amendment 24**
**Proposal for a directive**
**Recital 35**

*Text proposed by the Commission*

(35) It is also necessary to improve the harmonization of soil monitoring systems used in the Member States and exploit the synergies between Union and national monitoring systems in order to have more comparable data across the Union.

*Amendment*

(35) It is also necessary to improve the harmonization of soil monitoring systems used in the Member States and exploit the synergies between Union and national monitoring systems ***and make full use of already existing harmonised monitoring tools such as LUCAS*** in order to have more comparable data across the Union. ***Moreover, harmonisation of monitoring systems in Member States would help to scale up investments in advanced soil monitoring techniques and technologies.***

**Amendment 25**
**Proposal for a directive**
**Recital 36**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***(36) In order to make the widest possible use of soil health data generated by the monitoring carried out under this Directive, Member States should be required to facilitate the access to such data for relevant stakeholders such as farmers, foresters, land owners and local authorities.*** | ***deleted*** |

**Amendment 26**
**Proposal for a directive**
**Recital 37**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (37) To maintain or enhance soil health, soils need to be managed sustainably. Sustainable soil management will enable the long-term provision of soil services, including improved air and water quality and food security. It is therefore appropriate to lay down sustainable soil management principles to guide soil management practices. | (37) To maintain or enhance soil health, soils need to be managed sustainably. Sustainable soil management will enable the long-term provision of soil services, including improved air and water quality and food security. It is therefore appropriate to lay down ***non-binding*** sustainable soil management principles to guide soil management practices. |

**Amendment 27**
**Proposal for a directive**
**Recital 38**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (38) Economic instruments, including those under the Common Agricultural Policy (CAP) that provide support to farmers, have a crucial role in the transition to the sustainable management of agricultural soils and, to a lesser extent, forest soils. The CAP aims to support soil health through the implementation of conditionality, eco-schemes and rural development measures. Financial support for farmers and foresters who apply sustainable soil management practices can | (38) Economic instruments, including those under the common agricultural policy (CAP) that provide support to farmers, have a crucial role in the transition to the sustainable management of agricultural soils and, to a lesser extent, forest soils. The CAP aims to support soil health through the implementation of conditionality, eco-schemes and rural development measures. Financial support for farmers and foresters who apply sustainable soil management practices can |

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| also be generated by the private sector. Voluntary sustainability labels in the food, wood, bio-based, and energy industry, for example, established by private stakeholders, can take into account the ***sustainable soil management principles set out in*** this Directive. This can enable food, wood, and other biomass producers that follow those principles in their production to reflect these in the value of their products. Additional funding for a network of real-life sites for testing, demonstrating and upscaling of solutions, including on carbon farming, will be provided through the Soil Mission's living labs and lighthouses. Without prejudice to the polluter pays principle, support and advice should be provided by Member States to help landowners and land users affected by action taken under this Directive taking into account, in particular, the needs and limited capacities of small and medium sized enterprises. | also be generated by the private sector. Voluntary sustainability labels in the food, wood, bio-based, and energy industry, for example, established by private stakeholders, can take into account the ***contributions to improve soil health in accordance with*** this Directive. This can enable food, wood, and other biomass producers that follow those principles in their production to reflect these in the value of their products. Additional funding for a network of real-life sites for testing, demonstrating and upscaling of solutions, including on carbon farming, will be provided through the Soil Mission's living labs and lighthouses. Without prejudice to the polluter pays principle, support and advice should be provided by Member States to help landowners and land users affected by action taken under this Directive taking into account, in particular, the needs and limited capacities of small and medium sized enterprises. |

**Amendment 28**
**Proposal for a directive**
**Recital 39 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(39a) Good agricultural and environmental conditions (GAECs) 5, 6 and 7 as set out in Regulation (EU) 2021/2115 include standards to improve tillage management to reduce the risk of soil degradation and erosion, including by consideration of the slope gradient and minimum land management reflecting site specific conditions to limit erosion, minimum soil cover to avoid bare soil, protection of soils in periods that are most sensitive as well as crop rotation on arable land. In addition, GAEC 1 on protection of permanent pasture and GAEC 2 on protecting wetlands and peatlands and soils high in organic matter, are relevant for soil protection.*** |

**Amendment 29**
**Proposal for a directive**
**Recital 40**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (40) ***In order to ensure that the best sustainable soil management practices are implemented,*** Member States should be required to closely monitor the impact of soil management practices and adjust practices and recommendations as necessary, taking into account new knowledge from research and innovation. Valuable contributions are expected in this respect from the Horizon Europe Mission 'A Soil Deal for Europe' and in particular its living labs and activities to support soil monitoring, soil education and citizen engagement. | (40) Member States should be required to closely monitor the impact of soil management practices and adjust practices and recommendations as necessary, taking into account new knowledge from research and innovation. Valuable contributions are expected in this respect from the Horizon Europe Mission 'A Soil Deal for Europe' and in particular its living labs and activities to support soil monitoring, soil education and citizen engagement. |

**Amendment 30**
**Proposal for a directive**
**Recital 42**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (42) To ensure synergies between the different measures adopted under other Union legislation that may have an impact on soil health, and the measures that are to be put in place to sustainably manage and regenerate soils in the Union, Member States should ensure that the sustainable soil management and regeneration practices are coherent with the national restoration plans adopted in accordance with Regulation (UE) …/… of the European Parliament and of the Council[52]+***;*** the strategic plans to be drawn up by Member States under the Common Agricultural Policy in accordance with Regulation (EU) 2021/2115, the codes of good agricultural practices and the action programmes for designated vulnerable zones adopted in accordance with Council Directive 91/676/EEC[53] , the conservation measures and prioritized action framework | (42) To ensure synergies between the different measures adopted under other Union legislation that may have an impact on soil health, and the measures that are to be put in place to sustainably manage and regenerate soils in the Union, Member States should ensure that the sustainable soil management and regeneration practices are coherent with the national restoration plans adopted in accordance with Regulation (UE) …/… of the European Parliament and of the Council[52]+***; the national biodiversity strategies and action plans established in accordance with Article 6 of the United Nations Convention on Biological Diversity,*** the strategic plans to be drawn up by Member States under the Common Agricultural Policy in accordance with Regulation (EU) 2021/2115, the codes of good agricultural practices and the action |

established for Natura 2000 sites in accordance with Council Directive 92/43/EEC[54] , the measures for achieving good ecological and chemical status of water bodies included in river basin management plans prepared in accordance with Directive 2000/60/EC of the European Parliament and of the Council[55] , the flood risk management measures established in accordance with Directive 2007/60/EC of the European Parliament and of the Council[56], the drought management plans promoted in the Union Strategy on Adaptation to Climate Change[57] , the national action programmes established in accordance with Article 10 of the United Nations Convention to Combat Desertification, targets set out under Regulation (EU) 2018/841 of the European Parliament and of the Council[58] and Regulation (EU) 2018/842 of the European Parliament and of the Council[59], the integrated national energy and climate plans established in accordance with Regulation (EU) 2018/1999 of the European Parliament and of the Council[60] , the national air pollution control programmes prepared under Directive (EU) 2016/2284 of the European Parliament and of the Council[61] , risk assessments and disaster risk management planning established in accordance with Decision No 1313/2013/EU of the European Parliament and of the Council[62] , and national action plans established in accordance with ***Regulation (UE) …/…*** of the European Parliament and of the Council[63] +. Sustainable soil management and regeneration practices should be, as far as possible, integrated within these programmes, plans and measures to the extent that they contribute to the achievement of their objectives. Consequently, relevant indicators and data, such as soil-related result indicators under the CAP Regulation and statistical data on agricultural input and output reported under Regulation (EU) 2022/2379 of the European Parliament and of the Council[64] , should be accessible to the competent

programmes for designated vulnerable zones adopted in accordance with Council Directive 91/676/ EEC[53] , the conservation measures and prioritized action framework established for Natura 2000 sites in accordance with Council Directive 92/43/EEC[54], the measures for achieving good ecological and chemical status of water bodies included in river basin management plans prepared in accordance with Directive 2000/60/EC of the European Parliament and of the Council[55], the flood risk management measures established in accordance with Directive 2007/60/EC of the European Parliament and of the Council[56], the drought management plans promoted in the Union Strategy on Adaptation to Climate Change[57], the national action programmes established in accordance with Article 10 of the United Nations Convention to Combat Desertification, targets set out under Regulation (EU) 2018/841 of the European Parliament and of the Council[58] and Regulation (EU) 2018/842 of the European Parliament and of the Council[59], the integrated national energy and climate plans established in accordance with Regulation (EU) 2018/1999 of the European Parliament and of the Council[60], the national air pollution control programmes prepared under Directive (EU) 2016/2284 of the European Parliament and of the Council[61], risk assessments and disaster risk management planning established in accordance with Decision No 1313/2013/EU of the European Parliament and of the Council[62], and national action plans established in accordance with ***Directive 2009/128/EC*** of the European Parliament and of the Council. Sustainable soil management and regeneration practices should be, as far as possible, integrated within these programmes, plans and measures to the extent that they contribute to the achievement of their objectives. Consequently, relevant indicators and data, such as soil-related result indicators under the CAP Regulation and statistical data on

authorities responsible for sustainable soil management and regeneration practices and soil health assessment in order to cross-link these data and indicators and thus enable the most accurate possible assessment of the effectiveness of the measures chosen.

agricultural input and output reported under Regulation (EU) 2022/2379 of the European Parliament and of the Council[64], should be accessible to the competent authorities responsible for sustainable soil management and regeneration practices and soil health assessment in order to cross-link these data and indicators and thus enable the most accurate possible assessment of the effectiveness of the measures chosen.

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[52] OP : please insert please insert in the text the number of Regulation on nature restoration contained in document COM(2022) 304 and insert the number, date, title and OJ reference of that Regulation in the footnote Regulation (UE) …/… of the European Parliament and of the Council on nature restoration

[53] Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ L 375, 31.12.1991, p. 1).

[54] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7).

[55] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, pp. 1-73).

[56] Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks (OJ L 288, 6.11.2007, p. 27).

[57] Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change

[52] OP : please insert please insert in the text the number of Regulation on nature restoration contained in document COM(2022) 304 and insert the number, date, title and OJ reference of that Regulation in the footnote Regulation (UE) …/… of the European Parliament and of the Council on nature restoration

[53] Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ L 375, 31.12.1991, p. 1).

[54] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7).

[55] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, pp. 1-73).

[56] Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks (OJ L 288, 6.11.2007, p. 27).

[57] Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change

COM(2021)82 final.

[58] Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU (OJ L 156, 19.6.2018, p. 1).

[59] Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013 (OJ L 156, 19.6.2018, p. 26).

[60] Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1).

[61] Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC (OJ L 344, 17.12.2016, p. 1).

[62] Decision No 1313/2013/EU of the European Parliament and of the Council of 17 December 2013 on a Union Civil Protection Mechanism (OJ L 347, 20.12.2013, p. 924).

***[63] + OP: please insert in the text the***

COM(2021)82 final.

[58] Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU (OJ L 156, 19.6.2018, p. 1).

[59] Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013 (OJ L 156, 19.6.2018, p. 26).

[60] Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1).

[61] Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC (OJ L 344, 17.12.2016, p. 1).

[62] Decision No 1313/2013/EU of the European Parliament and of the Council of 17 December 2013 on a Union Civil Protection Mechanism (OJ L 347, 20.12.2013, p. 924).

***number of the Regulation on the sustainable use of plant protection products and amending Regulation (EU) 2021/2115 contained in document COM(2022)305 and insert the number, date, title and OJ reference of that Directive in the footnote***

[64] Regulation (EU) 2022/2379 on statistics on agricultural input and output.

[64] Regulation (EU) 2022/2379 on statistics on agricultural input and output.

**Amendment 31**
**Proposal for a directive**
**Recital 43**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (43) Contaminated sites are the legacy of decades of industrial activity in the EU and may lead to risks for human health and the environment now and in the future. It is therefore necessary ***first*** to identify and investigate potentially contaminated sites and then, in case of confirmed contamination, to assess the risks and take measures to address ***unacceptable risks***. Soil investigation may prove that a potentially contaminated site is in fact not contaminated. In that case, the site should no longer be labelled by the Member State as potentially contaminated, unless contamination is suspected based on new evidence. | (43) Contaminated sites are the legacy of decades of industrial activity in the EU and may lead to risks for human ***and animal*** health and the environment now and in the future. ***Building on existing knowledge,*** it is therefore necessary to identify and investigate potentially contaminated sites and then, in case of confirmed contamination, to assess the risks and take measures to address ***them***. Soil investigation may prove that a potentially contaminated site is in fact not contaminated. In that case, the site should no longer be labelled by the Member State as potentially contaminated, unless contamination is suspected based on new evidence. |

**Amendment 32**
**Proposal for a directive**
**Recital 44**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (44) To identify potentially contaminated sites, Member States should collect evidence among others through historical research, past industrial incidents and accidents, environmental permits and | (44) To identify potentially contaminated sites, Member States should collect evidence among others through historical research, past industrial incidents and accidents, environmental permits***, health*** |

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| notifications by the public or authorities. | ***surveys*** and notifications by the public or authorities. |

**Amendment 33**
**Proposal for a directive**
**Recital 45**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (45) In order to ensure that soil investigations on potentially contaminated sites are carried out timely and effectively, Member States should, in addition to the obligation to lay down the deadline by which those investigations should be carried out, be required to lay down specific events that also trigger such investigation. Such triggering events may include the request or review of an environmental or building permit or an authorisation required pursuant to Union legislation or national legislation, soil excavation activities, land use changes or land or real estate transactions. Soil investigations may follow different stages, such as a desk study, site visit, preliminary or exploratory investigation, more detailed or descriptive investigation, and field or laboratory testing. Baseline reports and monitoring measures implemented in accordance with Directive 2010/75/EU of the European Parliament and of the Council[65] could also qualify as soil investigation where appropriate. | (45) In order to ensure that soil investigations on potentially contaminated sites are carried out timely and effectively***, as requested in the European Parliament´s resolution of 28 April 2021 on soil protection***, Member States should, in addition to the obligation to lay down the deadline by which those investigations should be carried out, be required to lay down specific events that also trigger such investigation. Such triggering events may include the request or review of an environmental or building permit or an authorisation required pursuant to Union legislation or national legislation, soil excavation activities, land use changes or land or real estate transactions. Soil investigations may follow different stages, such as a desk study, site visit, preliminary or exploratory investigation, more detailed or descriptive investigation, and field or laboratory testing. Baseline reports and monitoring measures implemented in accordance with Directive 2010/75/EU of the European Parliament and of the Council[65] could also qualify as soil investigation where appropriate. |

[65] Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (OJ L 334, 17.12.2010, p. 17.

[65] Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (OJ L 334, 17.12.2010, p. 17.

**Amendment 34**
**Proposal for a directive**
**Recital 46**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (46) Flexibility for the management of potentially contaminated sites and contaminated sites is needed to take account of costs, benefits and local specificities. Member States should therefore ***at least*** adopt a risk-based approach for managing potentially contaminated sites and contaminated sites, taking into account the difference between these two categories, and which allows to allocate resources taking account of the specific environmental, economic and social context. Decisions should be taken based on the nature and extent of potential risks for human health and the environment resulting from exposure to soil contaminants (e.g. exposure of vulnerable populations such as pregnant women, persons with disabilities, elderly people and children). The cost-benefit analysis of undertaking remediation should be ***positive***. The optimum remediation solution should be sustainable and selected through a balanced decision-making process that takes account of the environmental, economic and social impacts. The management of potentially contaminated sites and contaminated sites should respect the polluter-pays, precautionary and proportionality principles. Member States should lay down the specific methodology for determining the site-specific risks of contaminated sites. Member States should also define what constitutes an unacceptable risk from a contaminated site based on scientific knowledge, the precautionary principle, ***local specificities***, and current and future land use. In order to reduce the risks of contaminated sites to an acceptable level for human health and the environment, Member States should take adequate risk reduction measures including remediation. It should be possible to qualify measures taken under other Union legislation as risk reduction measures under this Directive | (46) Flexibility for the management of potentially contaminated sites and contaminated sites is needed to take account of costs, benefits and local specificities. Member States should therefore adopt a risk-based approach for managing potentially contaminated sites and contaminated sites, taking into account the difference between these two categories, and which allows to allocate resources taking account of the specific environmental, economic and social context. Decisions should be taken ***in cooperation with local health practitioners, health authorities and the scientific community,*** based on the nature and extent of potential risks for human health and the environment resulting from exposure to soil contaminants (e.g. exposure of vulnerable populations such as pregnant women, persons with disabilities, elderly people and children)***, including exposure, and cumulative effects on human health, soil ecosystems and associated ecosystem services***. The cost-benefit analysis of undertaking remediation should be ***balanced, taking into account the advantages for future generations***. The optimum remediation solution should be sustainable and selected through a balanced decision-making process that takes account of the environmental, economic and social impacts. The management of potentially contaminated sites and contaminated sites should respect the polluter-pays, precautionary and proportionality principles. Member States should lay down the specific methodology for determining the site-specific risks of contaminated sites. Member States should also define what constitutes an unacceptable risk from a contaminated site based on scientific knowledge, the precautionary principle, ***the opinion of health authorities and practitioners***, and current and future land use. In order to |

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| when those measures effectively reduce risks posed by contaminated sites. | reduce the risks of contaminated sites to an acceptable level for human ***and animal*** health and the environment, Member States should take adequate risk reduction measures***, while prioritising in- or ex-situ*** including remediation. It should be possible to qualify measures taken under other Union legislation as risk reduction measures under this Directive when those measures effectively reduce risks posed by contaminated sites. |

**Amendment 35**
**Proposal for a directive**
**Recital 46 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(46a) Land take mitigation principles should facilitate the Union´s food security while taking into account sustainable housing, essential infrastructure and renewable energy projects.*** |

**Amendment 37**
**Proposal for a directive**
**Recital 48 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(48a) In order to protect soils from pollution by emerging chemicals that have the potential to cause significant risks to human and animal health and to contaminate surrounding air, surface waters, groundwater, and subsequently oceans, policy mechanisms to detect and assess such substances of emerging concern should be established. In that regard, an approach that allows monitoring and analysis of those substances or groups of substances via watch lists, as is already the case for surface water and groundwater, should be developed for soil contamination. The substances or groups of substances to be placed on the watch list should be selected*** |

***from amongst those substances for which the information available indicates that they could pose a significant risk at Union level to, or via, the soil environment, and for which the monitoring data are insufficient. The number of such substances or groups of substances to be monitored and analysed under the watch lists should not be limited.***

**Amendment 38**
**Proposal for a directive**
**Recital 48 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(48b) Substances such as persistent organic pollutants, materials and particles, including microplastics or nanoplastics, pose a clear risk to soil health, but also to essential activities such as the development of agriculture. Their presence in soils can have implications for soil fertility, thereby compromising the health and healthy development of crops. It is therefore essential that this Directive provide for a framework for both substances and materials to be included in the monitoring of soil contaminants, and for the establishment of environmental quality standards and a set of measures to prevent and remediate soil contamination from known and emerging threats, where appropriate.*** |

**Amendment 39**
**Proposal for a directive**
**Recital 50**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (50) Directive (EU) 2019/1024 of the European Parliament and of the Council[68] mandates the release of public sector data in free and open formats. The overall objective is to continue the strengthening of the EU's data economy by increasing | (50) Directive (EU) 2019/1024 of the European Parliament and of the Council[68] mandates the release of public sector data in free and open formats. The overall objective is to continue the strengthening of the EU's data economy by increasing |

the amount of public sector data available for re-use, ensuring fair competition and easy access to public sector information, and enhancing cross-border innovation based on data. ***The main principle is that government data should be open by default and design.*** Directive 2003/4/EC of the European Parliament and of the Council[69] is aimed at guaranteeing the right of access to environmental information in the Member States in line with the Aarhus Convention. The Aarhus Convention and Directive 2003/4/EC encompass broad obligations related both to making environmental information available upon request and actively disseminating such information. Directive 2007/2/EC of the European Parliament and of the Council[70] is also of broad scope, covering the sharing of spatial information, including data sets on different environmental topics. It is important that provisions of this Directive related to access to information and data-sharing arrangements complement those Directives and do not create a separate legal regime. Therefore, the provisions of this Directive regarding information to the public and information on monitoring of implementation should be without prejudice to Directives (EU) 2019/1024, 2003/4/EC and 2007/2/EC.

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[68] Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (OJ L 172, 26.6.2019, p. 56).

[69] Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC (OJ L 41, 14.2.2003, p. 26).

[70] Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European

the amount of ***interoperable*** public sector data available for re-use, ensuring fair competition and easy access to public sector information, and enhancing cross-border innovation based on data. Directive 2003/4/EC of the European Parliament and of the Council[69] is aimed at guaranteeing the right of access to environmental information in the Member States in line with the Aarhus Convention. The Aarhus Convention and Directive 2003/4/EC encompass broad obligations related both to making environmental information available upon request and actively disseminating such information. Directive 2007/2/EC of the European Parliament and of the Council[70] is also of broad scope, covering the sharing of spatial information, including data sets on different environmental topics. It is important that provisions of this Directive related to access to information and data-sharing arrangements complement those Directives and do not create a separate legal regime. Therefore, the provisions of this Directive regarding information to the public and information on monitoring of implementation should be without prejudice to Directives (EU) 2019/1024, 2003/4/EC and 2007/2/EC.

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[68] Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (OJ L 172, 26.6.2019, p. 56).

[69] Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC (OJ L 41, 14.2.2003, p. 26).

[70] Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European

Community (INSPIRE) (OJ L 108, 25.4.2007, p. 1).

Community (INSPIRE) (OJ L 108, 25.4.2007, p. 1).

**Amendment 40**
**Proposal for a directive**
**Recital 51**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (51) In order to ensure the necessary adaptation of the rules on soil health monitoring, ***sustainable soil management*** and management of contaminated sites, the power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission in respect of amending this Directive to adapt to technical and scientific progress the methodologies for monitoring soil health***, the list of sustainable soil management principles***, the indicative list of risk reduction measures, the phases and requirements for the site-specific risk assessment ***and the content*** of the ***register of contaminated and potentially*** contaminated sites. It is of particular importance that the Commission carries out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of 13 April 2016[71] . In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts. | (51) In order to ensure the necessary adaptation of the rules on soil health monitoring, ***assessment*** and management of contaminated sites, the power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission in respect of amending ***or supplementing*** this Directive ***to adopt a methodology for determining threshold values for soil descriptors to be established by Member States, and*** to adapt to technical and scientific progress the methodologies for monitoring soil health, the indicative list of risk reduction measures, the phases and requirements for the site-specific risk assessment ***and establishment*** of the ***minimum tolerable values in relation to the definition of an unacceptable risk for health and the environment resulting from*** contaminated sites. It is of particular importance that the Commission carries out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of 13 April 2016[71]. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts. |

[71] Interinstitutional Agreement between the European Parliament, the Council of the European Union and the European Commission on Better Law-Making of 13 April 2016 (OJ L 123, 12.5.2016, p. 1).

[71] Interinstitutional Agreement between the European Parliament, the Council of the European Union and the European Commission on Better Law-Making of 13 April 2016 (OJ L 123, 12.5.2016, p. 1).

**Amendment 41**
**Proposal for a directive**
**Recital 53**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (53) The Commission should carry out an evidence-based evaluation and, where relevant, a revision of this Directive, 6 years after its entry into force on the basis of the results of the soil health assessment. The evaluation should assess in particular the ***need to set more specific requirements to make sure unhealthy soils are regenerated and the objective*** to achieve healthy soils by 2050 ***is achieved***. The evaluation should also assess the need to adapt the definition of healthy soils to scientific and technical progress by adding provisions on certain descriptors or criteria based on new scientific evidence relating to the protection of soils or on the grounds of a problem specific to a Member State arising from new environmental or climatic circumstances. Pursuant to paragraph 22 of the Interinstitutional Agreement on Better Law-Making, that evaluation should be based on the criteria of efficiency, effectiveness, relevance, coherence and EU value added and should provide the basis for impact assessments of possible further measures. | (53) The Commission should carry out an evidence-based evaluation and, where relevant, a revision of this Directive, 6 years after its entry into force on the basis of the results of the soil health assessment. The evaluation should assess in particular the ***gap and measures needed*** to achieve healthy soils by 2050. The evaluation should also assess the need to adapt the definition of healthy soils to scientific and technical progress by adding provisions on certain descriptors or criteria based on new scientific evidence relating to the protection of soils or on the grounds of a problem specific to a Member State arising from new environmental or climatic circumstances. Pursuant to paragraph 22 of the Interinstitutional Agreement on Better Law-Making, that evaluation should be based on the criteria of efficiency, effectiveness, relevance, coherence and EU value added and should provide the basis for impact assessments of possible further measures. |

**Amendment 42**
**Proposal for a directive**
**Recital 55 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(55a) This Directive is aimed at meeting the long-term objective of healthy soil in*** |

***the Union by 2050 based on a coherent framework for soil monitoring and improvement of its health. Given its nature as a directive, in accordance with Article 288 of the Treaty on the Functioning of the European Union, this Directive is binding as to the result to be achieved in the Member States to whom it is addressed, while leaving national authorities the power to choose the form and methods to achieve the result. It will therefore be up to Member States to devise their own laws on how to reach the goals laid down in this Directive. The proposed instrument of a directive leaves much flexibility to the Member States to identify the best measures for them and to adapt the approach to local conditions. This is crucial to take account of the regional and local specificities as regards soil variability, land use, climatological conditions and socio-economic aspects. The nature of the instrument implies that principles laid down in this Directive do not entail direct obligations on individuals.***

**Amendment 43**
**Proposal for a directive**
**Article 1 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. The objective of the Directive is to put in place a solid ***and*** coherent soil monitoring ***framework*** for all soils across the EU ***and*** to continuously improve soil health in the Union with the view to achieve healthy soils by 2050 and maintain soils in healthy condition***,*** so that they can supply multiple ecosystem services at a scale sufficient to meet environmental, societal and economic needs, prevent and mitigate the impacts of climate change and biodiversity loss, increase the resilience against natural disasters and for food security and that soil contamination is reduced to levels no longer considered harmful to human health and the | 1. The objective of the Directive is to put in place a ***clear,*** solid***,*** coherent ***and flexible framework for*** soil monitoring ***and assessment*** for all soils across the EU ***in order*** to continuously improve soil health in the Union with the view to achieve healthy soils by 2050 and maintain soils in healthy condition ***and prevent their deterioration*** so that they can supply multiple ecosystem services at a scale sufficient to meet environmental, societal and economic needs, prevent and mitigate the impacts of climate change and biodiversity loss, increase the resilience against natural disasters and for food security and that soil contamination is |

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|---|---|
| environment. | reduced to levels no longer considered harmful to human health and the environment.<br>***This Directive, therefore, establishes a framework within which Member States are required to put in place measures that are technically feasible and based on a cost-benefit analysis, with a view to achieving healthy soils by 2050.*** |

**Amendment 44**
**Proposal for a directive**
**Article 1 – paragraph 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1a. This Directive contributes to fulfilling international and Union-level commitments, objectives and goals, including those contained in:***<br>***(a) the Kunming-Montreal Global Biodiversity Framework;***<br>***(b) the Paris Agreement;***<br>***(c) the UN Convention to Combat Desertification (UNCCD);***<br>***(d) the 7th EU Environment Action Programme (Decision No 1386/2013/EU);***<br>***(e) the 8th EU Environment Action Programme (Decision (EU) 2022/591);***<br>***(f) the Roadmap to a Resource Efficient Europe (COM/2011/0571).*** |

**Amendment 45**
**Proposal for a directive**
**Article 1 – paragraph 2 – point a**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (a) monitoring ***and assessment of*** soil health; | (a) monitoring***, maintaining, improving, rehabilitating and assessing*** soil health***, based on its ecological status***; |

**Amendments 217 and 266**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (1) 'soil' means the top layer of the Earth's crust situated between the bedrock and the land surface, which is composed of mineral particles, organic matter, water, air and living organisms; | (1) 'soil' means the top layer of the Earth's crust situated between the bedrock and the land surface, which is composed of mineral particles, organic matter, water, air and living organisms***, excluding raw material deposits***; |

**Amendment 46**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(1a) 'soil ecological status' means the ecological quality of a soil evaluated according to the soil's diversity, biological and functional activity, habitat and the presence of degradation factors, and determined according to the following classification:*** |
| | ***(a) 'high soil ecological status' refers to soils with high biological and functional activity;*** |
| | ***(b) 'good ecological status' refers to soils in an overall good ecological status but that show evidence of slight adverse impacts from one or multiple degradation factors;*** |
| | ***(c) 'moderate ecological status' refers to soils with evidence of slight adverse impacts from degradation factors;*** |
| | ***(d) 'degraded soils' refers to soils with clear evidence of adverse impacts from one degradation factor; and*** |
| | ***(e) 'critically degraded soils' refers to soils with clear evidence of adverse impacts from more than one degradation factor;*** |

**Amendment 47**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 1 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(1b) 'soil ecological functions' means the set of interrelated processes and interactions within the soil ecosystem that sustain life, support and are the result of soil biodiversity and maintain the overall health and productivity of terrestrial environments, such as nutrient cycling, organic matter decomposition, soil structure formation, water filtration and purification, carbon sequestration, and the provision of habitats and resources for a diverse range of organisms;*** |

**Amendment 48**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (3) 'ecosystem services' means indirect contributions of ecosystems to the economic, social, cultural and other benefits that people derive from those ecosystems; | (3) 'ecosystem services' means ***direct and*** indirect contributions of ecosystems to the ***wellbeing of society as a whole, and*** economic, social, cultural***, environmental*** and other benefits that people derive from those ecosystems; |

**Amendment 49**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 3 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(3a) 'soil biodiversity' means the variation in soil life, from genes to communities, and the ecological complexes of which they are part, that is complexes ranging from soil micro-habitats to landscapes;*** |

**Amendment 50**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (4) 'soil health' means the physical, chemical and biological condition of the soil determining its capacity to function as a vital living system and to provide ecosystem services; | (4) 'soil health' means the physical, chemical***, functional*** and biological condition of the soil determining its capacity to function as a vital living system and to provide ecosystem services***, taking land use into account***; |

**Amendment 247**

**Proposal for a directive**
**Article 3 – paragraph 1 – point 5**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (5) 'sustainable soil management' means soil management practices that maintain or enhance the ecosystem services ***provided by the soil without impairing the functions enabling those services, or being detrimental to other properties of the environment***; | (5) 'sustainable soil management' means soil management practices that ***aim to*** maintain or enhance the ***soil*** ecosystem services ***taking into account the socio-economic effects***; |

**Amendment 52**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 8**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (8) 'soil district' means the part of the territory of a Member State, as delimited by that Member State in accordance with this Directive; | (8) 'soil district' means the part of the territory of a Member State ***or several Member States***, as delimited by that Member State ***or those Member States*** in accordance with this Directive; |

**Amendment 53**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 10**

| *Text proposed by the Commission* | *Amendment* |
|---|---|

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|---|---|
| (10) 'contaminated site' means a delineated area of one or several plots with confirmed presence of soil contamination caused by ***point-source anthropogenic activities***; | (10) 'contaminated site' means a delineated area of one or several plots with confirmed presence of soil contamination caused by ***the presence of a substance or material in the soil in a concentration that may be harmful to health or the environment***; |

**Amendment 54**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 17 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(17a) 'soil sealing' means the covering of land with impermeable material, particularly in the context of using land as a platform for buildings and infrastructure;*** |

**Amendment 55**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 17 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(17b)*** '***de-sealing of soil***' ***means the re-conversion of land that no longer performs its natural soil functions, such as infiltration, percolation and hydrological functionality, into functional soil;*** |

**Amendment 56**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 19**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (19) 'public concerned' means the public affected or likely to be affected by soil degradation, or having an interest in the decision-making procedures related to the implementation of the obligations under this Directive, including land owners and ***land*** users, as well as non-governmental | (19) 'public concerned' means the public affected or likely to be affected by soil degradation, or having an interest in the decision-making procedures related to the implementation of the obligations under this Directive, including ***citizens,*** land owners***, managers*** and users, as well as |

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|---|---|
| organisations promoting the protection of human health or the environment and meeting any requirements under national law. | non-governmental organisations promoting the protection of human ***or animal*** health or the environment and meeting any requirements under national law. |

**Amendment 57**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 19 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(19a) 'public' means one or more natural or legal persons and, in accordance with national law or practice, associations, organisations or groups comprising such persons;*** |

**Amendment 58**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 20**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (20) 'soil contamination' means the presence of a ***chemical or*** substance in the soil in a concentration that may ***be*** harmful ***to*** human health or the environment; | (20) 'soil contamination' means the presence of a substance ***or material*** in the soil in a concentration that may ***lead, directly or indirectly, to*** harmful ***effects on*** human ***or animal*** health or the environment; |

**Amendment 59**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 23**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (23) 'risk' means the possibility of harmful effects to human health or the environment resulting from exposure to soil contamination; | (23) 'risk' means the possibility of harmful effects to human ***or animal*** health or the environment resulting from exposure to soil contamination; |

**Amendment 60**
**Proposal for a directive**
**Article 3 – paragraph 1 – point 26**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (26) 'soil remediation' means a regeneration action that reduces, isolates or immobilizes contaminant concentrations in the soil. | (26) 'soil remediation' means a regeneration action that reduces, isolates or immobilizes contaminant concentrations in the soil ***below a toxicity threshold for which significant dangers for organisms in contact with that soil can be excluded, with the aim of improving the ecological status***. |

**Amendment 61**
**Proposal for a directive**
**Article 4 – paragraph 1 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall establish soil districts throughout their territory. | Member States shall***, in consultation with local, regional and cross-regional authorities,*** establish soil districts***, based on, where appropriate, existing administrative units*** throughout their ***own*** territory ***and in cross-border territories together with neighbouring Member States***. |

**Amendment 221/rev1**
**Proposal for a directive**
**Article 4 – paragraph 1 – subparagraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***The number of soil districts for each Member State shall as a minimum correspond to the number of NUTS 1 territorial units established under Regulation (EC) No 1059/2003.*** | ***deleted*** |

**Amendment 63**
**Proposal for a directive**
**Article 4 – paragraph 2 – introductory part**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. When establishing the geographic | 2. When establishing the geographic |

| | |
|---|---|
| extent of soil districts, Member States may take into account existing administrative units and shall ***seek*** homogeneity within each soil district regarding the following parameters: | extent of soil districts, Member States may take into account existing ***land use, governance structures and*** administrative units and shall ***prioritise*** homogeneity within each soil district regarding the following parameters: |

**Amendment 64**
**Proposal for a directive**
**Article 4 – paragraph 2 – point d a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(da) river basin districts pursuant to Directive 2000/60/EC and water bodies used for abstraction of water intended for human consumption as defined in Directive (EU) 2020/2184.*** |

**Amendment 224/rev1**
**Proposal for a directive**
**Article 4 – paragraph 2 – point d b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(db) the existence of remote archipelagic regions with islands scattered between them, with each island corresponding to a soil district;*** |

**Amendment 226/rev1**
**Proposal for a directive**
**Article 4 – paragraph 2 – point d c (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(dc) use of Copernicus for the soil districts' delimitation.*** |

**Amendment 65**
**Proposal for a directive**
**Article 4 – paragraph 2 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(2a) Member States shall, where appropriate, ensure that soil districts of*** |

***neighbouring Member States in which there are transboundary effects on soil, comparable land use across borders or similar values for the parameters referred to in paragraph 2, points (a) to (d), cooperate with each other to exchange best practices. Member States shall also ensure that a coherent approach is taken by soil districts across borders.***

**Amendment 66**
**Proposal for a directive**
**Article 4 – paragraph 2 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(2b) The Commission shall support Member States in ensuring that their soil districts cooperate on a cross-border basis and shall facilitate harmonisation of monitoring systems, transfer functions, monitoring design and classification of ecological status at the level of the soil descriptors listed in Annex I.*** |

**Amendment 68**
**Proposal for a directive**
**Article 5 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall designate the competent authorities responsible at an appropriate level for carrying out the duties laid down in this Directive. | Member States shall designate the competent authorities responsible at an appropriate level for carrying out the duties laid down in this Directive***, taking into account existing administrative divisions and responsibilities, including in the case of cross-border soil districts***. |

**Amendment 69**
**Proposal for a directive**
**Article 5 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall designate one | Member States shall designate one |

| | |
|---|---|
| competent authority for each soil district established in accordance with Article 4. | competent authority for each soil district established in accordance with Article 4. ***Member States may designate one competent authority for several soil districts.*** |

**Amendment 70**
**Proposal for a directive**
**Article 5 – paragraph 2 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Member States shall communicate to the Commission the list of competent authorities referred to in paragraphs 1 and 2 of this Article in accordance with Article 18(3), point (b). The Commission shall maintain an updated list of the competent authorities on its website.*** |

**Amendment 71**
**Proposal for a directive**
**Article 6 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. Member States shall establish a monitoring framework based on the soil districts established in accordance with Article 4(1), to ensure that regular and accurate monitoring of soil health is carried out in accordance with this Article and Annexes I and II. | 1. Member States shall establish a monitoring framework based on the soil districts established in accordance with Article 4(1), to ensure that regular and accurate monitoring of soil health is carried out in accordance with this Article and Annexes I and II***, and is complementary to the assessment approach established by Directive 2000/60/EC***. |

**Amendment 72**
**Proposal for a directive**
**Article 6 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. Member States shall monitor soil health and land take in each soil district. | 2. Member States shall monitor soil health and land take in each soil district. ***Member States shall make use of the expertise of national research institutes,*** |

| | |
|---|---|
| | ***existing national monitoring systems and available data. The monitoring activities carried out by the Member States shall not result in a financial burden for the land managers.*** |

**Amendment 73**
**Proposal for a directive**
**Article 6 – paragraph 3 – point b**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (b) the soil sampling points to be determined in accordance with Article 8(2); | (b) the soil sampling points ***and sampling depth*** to be determined in accordance with Article 8(2); |

**Amendment 74**
**Proposal for a directive**
**Article 6 – paragraph 3 – point d**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (d) ***the*** remote sensing data and products referred to in paragraph 5 of this Article, if any; | (d) ***scientifically robust*** remote sensing data and products referred to in paragraph 5 of this Article, if any; |

**Amendment 227/rev1**
**Proposal for a directive**
**Article 6 – paragraph 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***4. The Commission shall, subject to agreement from Member States concerned, carry out regular soil measurements on soil samples taken in-situ, based on the relevant descriptors and methodologies referred to in Articles 7 and 8, to support Member States' monitoring of soil health. Where a Member State provides agreement in accordance with this paragraph, it shall ensure that the Commission can carry out such in-situ soil sampling.*** | ***deleted*** |

**Amendment 76**
**Proposal for a directive**
**Article 6 – paragraph 4 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4a. The Commission shall ensure that the first soil measurement referred to in paragraph 4 is performed by ... [OP: please insert the date = three years from the entry into force of this Directive].*** |
| | ***The Commission shall contribute to the monitoring carried out by Member States by providing sampling and analysing of at least 20 % of the size of national samples.*** |
| | ***The Commission shall, at the request of a Member State, provide further assistance with up to 50% of the sampling during the first national monitoring round.*** |

**Amendment 77**
**Proposal for a directive**
**Article 6 – paragraph 6 – introductory part**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 6. The Commission and the EEA shall, on the basis of existing data and within two years of the entry into force of this Directive, establish a digital soil health data portal that shall provide access in georeferenced spatial format to at least the available soil health data resulting from: | 6. The Commission and the EEA shall, on the basis of existing data and within two years of the entry into force of this Directive, establish a digital soil health data portal that shall provide access in georeferenced spatial format***, in line with Regulation (EC) No 223/2009 of the European Parliament and of the Council[1a],*** to at least the available soil health data resulting from: |

***[1a] Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and repealing Regulation (EC, Euratom) No 1101/2008 of the European Parliament and of the Council on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities, Council***

***Regulation (EC) No 322/97 on Community Statistics, and Council Decision 89/382/EEC, Euratom establishing a Committee on the Statistical Programmes of the European Communities (OJ L 087 31.3.2009, p. 164).***

**Amendment 78**
**Proposal for a directive**
**Article 6 – paragraph 6 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***6a. The soil monitoring framework referred to in paragraphs 3 to 6 shall build on existing monitoring frameworks at Union and national level, including data from the LUCAS Soil Observatory.*** |

**Amendment 79**
**Proposal for a directive**
**Article 6 – paragraph 7 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***7a. The digital soil health data portal shall include the Sustainable Soil Management Toolbox referred to in Article 10a.*** |

**Amendment 80**
**Proposal for a directive**
**Article 6 – paragraph 8**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 8. The Commission shall adopt implementing acts to establish formats or methods for sharing or collecting the data referred to in paragraph 7 or for integrating those data in the digital soil health data portal. Those implementing acts shall be adopted in accordance with the examination procedure referred to in | 8. The Commission shall adopt implementing acts to establish formats or methods for sharing or collecting the data referred to in paragraph 7 or for integrating those data in the digital soil health data portal***, ensuring compliance with Union law on the protection of personal data***. Those implementing acts shall be adopted in accordance with the examination |

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|---|---|
| Article 21. | procedure referred to in Article 21. |

**Amendment 81**
**Proposal for a directive**
**Article 6 – paragraph 8 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***8a. The Commission shall provide to Member States the necessary capacity building, assistance and consulting services and support their monitoring initiatives, multilateral harmonisation of regulations, methods and archives, and thereby close existing data gaps and workflow bottlenecks by sharing common expertise. To that end, the Commission shall build on existing mechanisms, including the Soil BON initiative.*** |

**Amendment 82**
**Proposal for a directive**
**Article 6 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Article 6a*** |
| | ***Efficient use and preservation of soil samples*** |
| | ***1. The Commission, together with Member States and the European Soil Observatory, shall put in place measures to ensure that the physical archives of soils, DNA extracts and the digital archive of raw data, at both Union and national level, remain available for further research and innovation. The Commission and Member States shall ensure that samples are stored in a manner appropriate to their long-term sustainable use.*** |
| | ***2. By ... [OP: please insert the date = 12 months from the date of entry into force of this Directive], the Commission shall provide guidelines with protocols of reference to use soil samples in the most*** |

***cost-efficient way.***

**Amendment 83**
**Proposal for a directive**
**Article 7 – title**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Soil descriptors, criteria for ***healthy soil condition, and*** land take and soil sealing indicators | Soil descriptors, criteria for ***soil ecological status,*** land take and soil sealing indicators |

**Amendment 228**
**Proposal for a directive**
**Article 7 – paragraph 1 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| When monitoring and assessing soil ***health***, Member States ***shall*** apply the soil descriptors ***and soil health criteria*** listed in Annex I. | When monitoring and assessing soil, Member States ***may*** apply the soil descriptors ***that best illustrate the soil characteristics of each soil type at national level*** listed in Annex I. |

**Amendment 85**
**Proposal for a directive**
**Article 7 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. Member States ***may adapt the soil descriptors and*** the soil ***health criteria referred to in part A of Annex I,*** in accordance with the ***specifications referred to in the second and third columns*** in part A of Annex I. | 2. Member States ***shall select the adequate tier for*** the soil ***monitoring design for which they qualify*** in accordance with the ***conditions of Annex I, and shall ensure that they include at least all soil descriptors*** in Part A of Annex I. |

**Amendment 86**
**Proposal for a directive**
**Article 7 – paragraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 3. Member States shall determine the organic contaminants for the soil descriptor related to soil contamination referred to in | 3. Member States shall determine the organic contaminants for the soil descriptor related to soil contamination referred to in |

part ***B*** of Annex I.

part ***A*** of Annex I.

**Amendment 87**
**Proposal for a directive**
**Article 7 – paragraph 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***4. Member States shall set soil health criteria for the soil descriptors listed in part B of Annex I in accordance with the provisions set out in the third column in part B of Annex I.*** | ***deleted*** |

**Amendment 88**
**Proposal for a directive**
**Article 7 – paragraph 5**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 5. Member States may set additional soil descriptors and land take indicators, including but not limited to the ***optional*** descriptors and indicators listed in part ***C and*** D of Annex I, for monitoring purposes ***('additional soil descriptors' and 'additional land take indicators')***. | 5. Member States may set additional soil descriptors and land take indicators, including but not limited to the descriptors and indicators listed in part D of Annex I, for monitoring purposes. |

**Amendment 89**
**Proposal for a directive**
**Article 7 – paragraph 6**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 6. Member States shall inform the Commission when soil descriptors, land take indicators and soil health criteria are set or adapted in accordance with paragraphs 2 to 5 of this Article. | 6. Member States shall inform the Commission when soil descriptors, land take indicators and soil health criteria are set or adapted in accordance with paragraphs 2 to 5 of this Article ***and with Article 9***. |

**Amendment 90**
**Proposal for a directive**
**Article 8 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. Member States shall determine sampling points by applying the methodology set out in ***part A of*** Annex ***II***. | 1. Member States shall determine sampling points by applying the methodology set out in Annex ***I according to the selected tier for soil monitoring design, taking into account risk assessments based on existing monitoring systems***. |

**Amendment 91**
**Proposal for a directive**
**Article 8 – paragraph 2 – point a**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (a) the values of the soil descriptors as set in Annex I; | (a) the values of the soil descriptors ***according to the selected tier for soil monitoring design*** as set in Annex I; |

**Amendment 92**
**Proposal for a directive**
**Article 8 – paragraph 3 – subparagraph 1 – point a**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (a) the methodologies for determining or estimating the values of the soil descriptors set out in ***part B of*** Annex II; | (a) the methodologies for determining or estimating the values of the soil descriptors set out in Annex II; |

**Amendment 93**
**Proposal for a directive**
**Article 8 – paragraph 3 – subparagraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States may apply other methodologies than the ones listed in the first subparagraph, points (a) and (b), provided that validated transfer functions are available, as required in Annex II, part B, fourth column. | Member States may apply other methodologies than the ones listed in the first subparagraph, points (a) and (b), provided that validated transfer functions are available ***or may be estimated by comparing data taken at national level with in-situ monitoring coordinated by the*** |

***Commission***, as required in Annex II, part B, fourth column.

**Amendment 94**
**Proposal for a directive**
**Article 8 – paragraph 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 4. Member States shall ensure that the first soil measurements are performed at the latest by… (OP: please insert the date = ***4*** years after date of entry into force of the Directive). | 4. Member States shall ensure that the first soil measurements are performed at the latest by… (OP: please insert the date =***3*** years after date of entry into force of the Directive). |

**Amendment 95**
**Proposal for a directive**
**Article 8 – paragraph 5**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 5. Member States shall ensure that new soil measurements are performed at least every ***5*** years. | 5. Member States shall ensure that new soil measurements are performed at least every ***6 years or earlier, whenever soil status modification is suspected. Member States shall also facilitate in-situ soil monitoring coordinated by the Commission.*** |
| Member States shall ensure that the value of the land take and soil sealing indicators are updated at least every year. | Member States shall ensure that the value of the land take and soil sealing indicators are updated at least every ***two*** years. |

**Amendment 96**
**Proposal for a directive**
**Article 8 – paragraph 6**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 6. The Commission is empowered to adopt delegated acts in accordance with Article 20 to amend Annex II in order to adapt the reference methodologies mentioned in it to scientific and technical progress***, in particular where values of soil descriptors can be determined by remote*** | 6. The Commission is empowered to adopt delegated acts in accordance with Article 20 to amend Annex II in order to adapt the reference methodologies mentioned in it to scientific and technical progress. |

***sensing referred to in Article 6(5)***.

**Amendment 97**
**Proposal for a directive**
**Article 9 – paragraph 1 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall assess the soil health in all their soil districts based on the data collected in the context of the monitoring referred to in Articles 6, 7 and 8 for each of the soil descriptors referred to in ***Parts A and B of*** Annex I. | Member States shall assess the soil health in all their soil districts based on the data collected in the context of the monitoring referred to in Articles 6, 7 and 8 for each of the soil descriptors referred to in Annex I ***according to the selected tier for soil monitoring design, while taking into account the historical and natural circumstances of the soil***. |

**Amendment 98**
**Proposal for a directive**
**Article 9 – paragraph 1 – subparagraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall also take into account the data collected in the context of soil investigations referred to in Article 14. | ***For the assessment of the soil ecological status,*** Member States shall also take into account the data collected in the context of soil investigations referred to in Article 14. |

**Amendment 99**
**Proposal for a directive**
**Article 9 – paragraph 1 – subparagraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall ensure that ***soil health*** assessments are performed at least every ***5*** years and that the first ***soil health*** assessment is performed by … (OP: please insert the date = 5 years after date of entry into force of the Directive). | Member States shall ensure that assessments ***of soil ecological status*** are performed at least every ***6*** years and that the first assessment is performed by … (OP: please insert the date = 5 years after date of entry into force of the Directive)***, accompanied by reports on relative improvement, trends, progress or regression***. |

**Amendment 100**
**Proposal for a directive**
**Article 9 – paragraph 2 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| A soil is considered healthy in accordance with this Directive where the ***following cumulative conditions are fulfilled:*** | A soil is considered healthy in accordance with this Directive where the ***soil is classified either with good or high ecological status.*** |
| ***(a) the values for all soil descriptors listed in part A of Annex I meet the criteria laid down therein and, where applicable, adapted in accordance with Article 7;*** | |
| ***(b) the values for all soil descriptors listed in part B of Annex I meet the criteria set in accordance with Article 7 ('healthy soil').*** | |

**Amendment 101**
**Proposal for a directive**
**Article 9 – paragraph 2 – subparagraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***By way of derogation from the first subparagraph the assessment of soils within a land area listed in the fourth column of Annex I, shall not take into account the values set out in the third column for that land area.*** | ***deleted*** |

**Amendment 102**
**Proposal for a directive**
**Article 9 – paragraph 2 – subparagraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***Soil is unhealthy where at least one of the criteria referred to in subparagraph 1 is not met ('unhealthy soil').*** | ***deleted*** |

**Amendment 103**
**Proposal for a directive**
**Article 9 – paragraph 3 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall analyse the values for the soil descriptors listed in ***part*** C of Annex I and assess whether there is a critical loss of ecosystem services, taking into account the relevant data and available scientific knowledge. | Member States shall analyse the values for the soil descriptors listed in ***parts A, B and*** C of Annex I***, according to the selected tier for soil monitoring design,*** and assess whether there is a critical loss of ***soil biodiversity and*** ecosystem services, taking into account the relevant data and available scientific knowledge. |

**Amendment 104**
**Proposal for a directive**
**Article 9 – paragraph 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 4. Based on the assessment of soil health carried out in accordance with this Article, the competent authority shall, where relevant in coordination with local, regional, national authorities, identify, in each soil district, the areas ***which present unhealthy soils*** and inform the public in accordance with Article 19. | 4. Based on the assessment of soil health carried out in accordance with this Article, the competent authority shall, where relevant in coordination with local, regional, national authorities, identify, in each soil district, the areas ***of soil that are not of high soil ecological status or good ecological status*** and inform the public in accordance with Article 19. |

**Amendment 105**
**Proposal for a directive**
**Article 9 – paragraph 4 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4a. The Commission shall adopt delegated acts by 31 December 2026 in accordance with Article 20 to supplement this Regulation by establishing a methodology for determining threshold values for soil descriptors in Annex I for each soil ecological status. The methodology shall take into consideration the most recent scientific evidence and*** |

***account for different climatic conditions and type of soils.***

**Amendment 106**
**Proposal for a directive**
**Article 9 – paragraph 4 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4b. By 30 June 2028, Member States shall submit to the Commission draft threshold values for soil descriptors in Annex I, taking into consideration climate conditions, the type of soil and type of land area, together with the scientific justification and evidence on which they based their choices.*** |

**Amendment 107**
**Proposal for a directive**
**Article 9 – paragraph 4 c (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4c. Within 6 months of the date of the submission of the draft threshold values referred to in paragraph 4b, the Commission shall make observations on the draft threshold values, assessing the scientific justification and ensuring a level playing field within the internal market. Upon request from the Commission, Member States shall provide to the Commission all necessary additional information and, where appropriate, revise the proposed threshold values.*** |

**Amendment 108**
**Proposal for a directive**
**Article 9 – paragraph 4 d (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4d. Provided that any observations made by the Commission in accordance*** |

| | |
|---|---|
| | ***with paragraph 4c have been adequately taken into account, the Commission shall, by means of implementing acts, approve threshold values no later than 31 December 2029.*** |

**Amendment 110**
**Proposal for a directive**
**Article 9 – paragraph 4 f (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4f. When applying a Tier 2 for soil monitoring design, Member States may benefit from variation of up to 20% in comparison to the threshold values set in accordance with paragraph 4d.*** |

**Amendment 111**
**Proposal for a directive**
**Article 9 – paragraph 5 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***Member States shall set up a mechanism for a voluntary soil health certification for land owners and managers pursuant to the conditions in paragraph 2 of this Article.*** | ***deleted*** |

**Amendment 112**
**Proposal for a directive**
**Article 9 – paragraph 5 – subparagraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***The Commission may adopt implementing acts to harmonise the format of soil health certification. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 21.*** | ***deleted*** |

**Amendment 113**
**Proposal for a directive**
**Article 9 – paragraph 6**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 6. Member States shall communicate soil health data and assessment referred to in Articles 6 to 9 to the relevant land owners and land managers ***upon their request***, in particular to support the development of the advice referred to in Article 10(3). | 6. Member States shall communicate soil health data and assessment referred to in Articles 6 to 9 to the relevant land owners and land managers ***and make them available free of charge***, in particular to support the development of the advice referred to in Article 10(3). ***Member States shall ensure that research institutions have easy and continuous access to samples, DNA extracts and raw data free of charge.*** |

**Amendment 248**
**Proposal for a directive**
**Article 10 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***1. From (OP: please insert the date = 4 years after date of entry into force of the Directive), Member States shall take at least the following measures, taking into account the type, use and condition of soil:*** | ***deleted*** |
| ***(a) defining sustainable soil management practices respecting the sustainable soil management principles listed in Annex III to be gradually implemented on all managed soils and, on the basis of the outcome of the soil assessments carried out in accordance with Article 9, regeneration practices to be gradually implemented on the unhealthy soils in the Member States;*** | |
| ***(b) defining soil management practices and other practices affecting negatively the soil health to be avoided by soil managers.*** | |
| ***When defining the practices and measures referred to in this paragraph, Member States shall take into account the programmes, plans, targets and measures*** | |

***listed in Annex IV as well as the latest existing scientific knowledge including results coming out of the Horizon Europe Mission a Soil Deal for Europe.***

***Member States shall identify synergies with the programmes, plans and measures set out in Annex IV. The soil health monitoring data, the results of the soil health assessments, the analysis referred to in Article 9 and the sustainable soil management measures shall inform the development of the programmes, plans and measures set out in Annex IV.***

***Member States shall ensure that the process of elaboration of the practices referred to in the first subparagraph is open, inclusive and effective and that the public concerned, in particular landowners and managers, are involved and are given early and effective opportunities to participate in their elaboration.***

**Amendments 120 and 249**
**Proposal for a directive**
**Article 10 – paragraph 2 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall ensure easy access to impartial and independent advice on sustainable soil management, training activities and capacity building for soil managers, landowners and relevant authorities. | Member States shall ensure easy ***and equal*** access to impartial and independent advice on sustainable soil management, training activities and capacity building for soil managers, landowners***, land managers*** and relevant authorities***, in all their soil districts***. |

**Amendments 121 and 250**
**Proposal for a directive**
**Article 10 – paragraph 2 – subparagraph 2 – point b**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (b) promoting research ***and*** implementation of ***holistic*** soil management concepts; | (b) promoting research***, innovation, citizens science and encourage*** implementation of ***sustainable*** soil |

management concepts;

**Amendment 122**
**Proposal for a directive**
**Article 10 – paragraph 2 – subparagraph 2 – point c**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (c) making available a regularly updated mapping of available funding instruments and activities to support the implementation of sustainable soil management. | (c) making available a regularly updated mapping of available funding instruments and activities to support the implementation of sustainable soil management***, and other activities to support the implementation of this Directive, including research and citizen science***. |

**Amendment 251**
**Proposal for a directive**
**Article 10 – paragraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***3. Member States shall regularly assess the effectiveness of the measures taken in accordance with this Article and, where relevant, review and revise those measures, taking into account the soil health monitoring and assessment referred to in Articles 6 to 9.*** | ***deleted*** |

**Amendments 123 and 252**
**Proposal for a directive**
**Article 10 – paragraph 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***4. The Commission is empowered to adopt delegated acts in accordance with Article 20 to amend Annex III in order to adapt the sustainable soil management principles to take into account scientific and technical progress.*** | ***deleted*** |

**Amendment 124**
**Proposal for a directive**
**Article 10 – paragraph 4 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4a. The Commission shall, upon request, assist and provide guidance to Member States regarding the development of specific measures linked to the sustainable soil management principles listed in Annex III.*** |

**Amendment 125**
**Proposal for a directive**
**Article 10 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Article 10a*** |
| | ***Sustainable Soil Management Toolbox*** |
| | ***1. In order to support the implementation of this Directive, the Commission shall establish a sustainable soil management toolbox that provides soil managers with practical information on the use of sustainable soil management practices, which includes information provided by the Member States.*** |
| | ***2. The toolbox shall contain:*** |
| | ***(a) recommendations and examples of best practices from the Member States´ competent authorities which monitor the impact of soil management practices, and information about the impact of such practices on various ecosystem services and soil threats;*** |
| | ***(b) the context-specific information related to combinations of soil type, land use and climatic conditions;*** |
| | ***(c) new knowledge from research and innovation, including from the Horizon Europe mission 'A Soil Deal for Europe';*** |
| | ***(d) other relevant information collected by the Commission or provided to the*** |

***Commission by the Member States.***

***3. The toolbox shall be publicly available free of charge, and be included in the digital soil health data portal established in accordance with Article 6(6).***

***The Commission shall actively update and take all appropriate measures to promote the content of the toolbox to land managers.***

**Amendment 126**
**Proposal for a directive**
**Article 11 – title**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Land take mitigation ***principles*** | Land take mitigation |

**Amendment 127**
**Proposal for a directive**
**Article 11 – paragraph 1 – introductory part**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall ***ensure that*** the following ***principles are respected in case of land take***: | ***In case of land take,*** Member States shall ***consider*** the following ***actions, while taking into account local specificities and socio-economic impacts***: |

**Amendments 128 and 254**
**Proposal for a directive**
**Article 11 – paragraph 1 – point a – introductory part**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (a) ***avoid or reduce*** as much as technically and economically possible the loss of the capacity of the soil to provide multiple ecosystem services, including food production***,*** by: | (a) ***avoiding or reducing*** as much as technically***, socially*** and economically possible the loss of the capacity of the soil to provide multiple ecosystem ***and other*** services, including ***agriculture,*** food production ***and sustainable forest management*** by: |

**Amendment 129**
**Proposal for a directive**
**Article 11 – paragraph 1 – point a – point i**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (i) reducing the area affected by the land take ***to the extent*** possible ***and*** | (i) reducing the area affected by the land take ***as much as*** possible***;*** |

**Amendment 130**
**Proposal for a directive**
**Article 11 – paragraph 1 – point a – point ii**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (ii) ***selecting*** areas where the loss of ecosystem services would be minimized ***and*** | (ii) ***prioritising*** areas where the loss of ecosystem services would be minimized***;*** |

**Amendment 131**
**Proposal for a directive**
**Article 11 – paragraph 1 – point a – point iii**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (iii) performing the land take in a way that ***minimizes the negative impact on soil***; | (iii) performing the land take in a way that ***is aligned with sustainable development, including preserving soil fertility, biodiversity, water permeability, filtration and retention to the extent possible***; |

**Amendment 132**
**Proposal for a directive**
**Article 11 – paragraph 1 – point b**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (b) ***compensate*** as much as possible the loss of soil capacity to provide multiple ecosystem services. | (b) ***if possible, compensating*** as much as possible the loss of soil capacity to provide multiple ecosystem services; ***such compensation, where applicable, may take place on an aggregated level or cross border between Member States if the soil*** |

***district has the same characteristics as an adjacent soil district in a neighbouring Member State or a cross-border soil district.***

**Amendment 133**
**Proposal for a directive**
**Article 11 – paragraph 1 – point b a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(ba) adopting measures to ensure fair compensation of landowners in case of land take;*** |

**Amendment 134**
**Proposal for a directive**
**Article 11 – paragraph 1 – point b b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(bb) putting in place measures to prevent or limit land take, including mapping of abandoned brownfield and industrial sites and incentives to restore and reuse abandoned areas with sealed soils.*** |

**Amendment 135**
**Proposal for a directive**
**Article 12 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. Member States shall manage the risks for human health and the environment of potentially contaminated sites and contaminated sites, and keep them to acceptable levels, taking account of the environmental, social and economic impacts of the soil contamination and of the risk reduction measures taken pursuant to Article 15 paragraph 4. | 1. Member States shall manage ***and reduce*** the risks for human ***and animal*** health and the environment of potentially contaminated sites and contaminated sites, and keep them to acceptable levels ***considering the intended use of the soil***, taking account of the environmental, social and economic impacts of the soil contamination and of the risk reduction measures taken pursuant to Article 15 paragraph 4. |

**Amendment 136**
**Proposal for a directive**
**Article 12 – paragraph 4 – introductory part**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 4. The public ***concerned*** shall be given early and effective opportunities: | 4. The public shall be given early and effective opportunities: |

**Amendment 137**
**Proposal for a directive**
**Article 12 – paragraph 4 – point a**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (a) to participate in the establishment and concrete application of the risk-based approach as defined in this Article; | (a) to participate in the establishment and concrete application of the risk-based approach as defined in this Article***, the identification of potentially contaminated sites in accordance with Article 13, the investigation of potentially contaminated sites in accordance with Article 14 and the assessment and management of contaminated sites in accordance with Article 15, when all options are still available***; |

**Amendment 138**
**Proposal for a directive**
**Article 12 – paragraph 4 – point b**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (b) to provide information relevant for the ***identification of potentially contaminated sites in accordance with Article 13, the investigation of potentially contaminated sites in accordance with Article 14 and the management of contaminated sites in accordance with Article 15***; | (b) to provide information ***and evidence*** relevant for the ***activities referred to in point (a) at any time, such as human biomonitoring or environmental monitoring data***; |

**Amendment 139**
**Proposal for a directive**
**Article 12 – paragraph 4 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4a. For the purposes of paragraph 4, Member States shall ensure that the public is informed in a timely, adequate and effective manner, including by public notices and electronic media, of all relevant information.*** |

**Amendment 140**
**Proposal for a directive**
**Article 12 – paragraph 4 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4b. Member States shall take due account of the information submitted in accordance with paragraph 4 when implementing the provisions of this Chapter and in relation to the soil descriptors for soil contamination listed in Annex I.*** |

**Amendment 141**
**Proposal for a directive**
**Article 12 – paragraph 4 c (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4c. Where the evidence shows wide dispersive soil pollution or exposure to the substance or mixture concerned via soil, the competent authority shall initiate a risk management process. Where the evidence shows a lack of information on the risk to human or animal health or the environment posed by a hazardous substance or mixture present in the soil, the competent authority shall investigate further with a view to taking risk management measures in line with the precautionary principle, where necessary.*** |

**Amendment 142**
**Proposal for a directive**
**Article 12 – paragraph 4 d (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4d. Member States shall promptly inform the public of any decision or measure taken pursuant to paragraphs 4 and 4c and of the reasons and considerations upon which the decision or measure is based, including an explanation of how the information was taken into account.*** |

**Amendment 143**
**Proposal for a directive**
**Article 13 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. Member States shall systematically and actively identify all sites where a soil contamination is suspected based on evidence collected through all ***available*** means ('potentially contaminated sites'). | 1. Member States shall systematically and actively identify all sites where a soil contamination is suspected based on evidence collected through all ***appropriate*** means***, including citizens' input and set procedures*** ('potentially contaminated sites'). |

**Amendment 144**
**Proposal for a directive**
**Article 13 – paragraph 2 – subparagraph 1 – point d**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***(d) operation of an activity referred to in Annex III to Directive 2004/35/CE of the European Parliament and of the Council[77] ;*** | ***deleted*** |

***[77] Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of***

***environmental damage (OJ L 143, 30.4.2004, p. 56)***

**Amendment 145**
**Proposal for a directive**
**Article 13 – paragraph 2 – subparagraph 1 – point f a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(fa) any areas used for the abstraction of drinking water;*** |

**Amendment 146**
**Proposal for a directive**
**Article 13 – paragraph 2 – subparagraph 1 – point g a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(ga) occurrence of any disease that is presumed to be linked to exposure to contamination via the soil;*** |

**Amendment 147**
**Proposal for a directive**
**Article 13 – paragraph 2 – subparagraph 1 – point g b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(gb) any information provided by the public or Member State authorities.*** |

**Amendment 148**
**Proposal for a directive**
**Article 14 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. Member States shall ensure that all potentially contaminated sites identified in accordance with Article 13 are subject to soil investigation. | 1. Member States shall ensure that all potentially contaminated sites identified in accordance with Article 13 are subject to soil investigation ***according to order of priority***. |

**Amendment 149**
**Proposal for a directive**
**Article 14 – paragraph 2 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall lay down the rules concerning the deadline, content, form and the prioritisation of the soil investigations. Those rules shall be established in accordance with the risk-based approach referred to in Article 12 and the list of potentially contaminating risk activities referred to in Article 13(2), second subparagraph. | Member States shall lay down the rules concerning the deadline, content, form and the prioritisation of the soil investigations***, taking into account environmental, social and economic aspects***. Those rules shall be established in accordance with the risk-based approach referred to in Article 12 and the list of potentially contaminating risk activities referred to in Article 13(2), second subparagraph. |

**Amendment 150**
**Proposal for a directive**
**Article 14 – paragraph 2 – subparagraph 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Potentially contaminated sites located in areas used for the abstraction of water for human consumption shall be prioritised for soil investigation.*** |

**Amendment 151**
**Proposal for a directive**
**Article 15 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. Member States shall define what constitutes an unacceptable risk for human health and the environment resulting from contaminated sites by taking into account existing scientific knowledge, the precautionary principle, local specificities, and current and future land use. | 2. Member States shall define what constitutes an unacceptable risk for human ***and animal*** health and the environment resulting from contaminated sites by taking into account existing scientific knowledge, the ***opinion of health professionals and health authorities, the*** precautionary principle, local specificities, and current and future land use. |

**Amendment 152**
**Proposal for a directive**
**Article 15 – paragraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 3. For each contaminated site identified pursuant to Article 14 or by any other means, the responsible competent authority shall carry out a site-specific assessment for the current and planned land uses to determine whether the contaminated site poses unacceptable risks for human health or the environment. | 3. For each contaminated site identified pursuant to Article 14 or by any other means, the responsible competent authority shall carry out a site-specific assessment for the current and planned land uses to determine whether the contaminated site poses unacceptable risks for human ***and animal*** health or the environment. |

**Amendment 153**
**Proposal for a directive**
**Article 15 – paragraph 3 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***3a. Where appropriate, Member States may consider assessments which have been implemented in accordance with Directive 2010/75/EU, 2011/92/EU or 2012/18/EU as sufficient.*** |

**Amendment 154**
**Proposal for a directive**
**Article 15 – paragraph 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 4. On the basis of the outcome of the assessment referred to in paragraph 3, the responsible competent authority shall ***take*** the appropriate measures to bring the risks to an acceptable level for human health and the environment (‘risk reduction measures’). | 4. On the basis of the outcome of the assessment referred to in paragraph 3, the responsible competent authority shall ***ensure that*** the appropriate measures ***are taken*** to bring the risks to an acceptable level for human health and the environment (‘risk reduction measures’). |

**Amendment 155**
**Proposal for a directive**
**Article 15 – paragraph 5 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| The risk reduction measures ***may consist of*** the measures referred to in Annex V. When deciding on the appropriate risk reduction measures, the competent authority shall take into consideration the costs, benefits, effectiveness, durability, and technical feasibility of available risk reduction measures. | The risk reduction measures ***shall be based on*** the measures referred to in Annex V. When deciding on the appropriate risk reduction measures, the competent authority shall take into consideration the costs, benefits, effectiveness, durability, and technical feasibility of available risk reduction measures ***in the short and long term***. ***Member States shall always aim for prevention and soil decontamination.*** |

**Amendment 156**
**Proposal for a directive**
**Article 15 – paragraph 5 – subparagraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Risk reduction measures affecting surrounding water bodies used for abstraction of water intended for human consumption shall comply with the acceptable risk standards set out in Directive (EU) 2020/2184.*** |

**Amendment 157**
**Proposal for a directive**
**Article 15 – paragraph 5 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***5a. The Commission is empowered to adopt delegated acts in accordance with Article 20 to supplement this Directive by establishing maximum tolerable values in relation to the definition of an unacceptable risk for health and the environment resulting from contaminated sites as referred to in paragraph 2.*** |

**Amendment 158**
**Proposal for a directive**
**Article 16 – paragraph 4 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall make public the register and information referred to in paragraphs 1 and 2. Disclosure of any information may be refused or restricted by the competent authority where the conditions laid down in Article 4 of Directive 2003/4/EC of the European Parliament and of the Council[78] are fulfilled. | Member States shall make public**,** ***accessible in a user-friendly manner and free of charge*** the register and information referred to in paragraphs 1 and 2. Disclosure of any information may be refused or restricted by the competent authority where the conditions laid down in Article 4 of Directive 2003/4/EC of the European Parliament and of the Council[78] are fulfilled. The register shall be made available in an online georeferenced spatial database. |
| [78] Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC (OJ L 41, 14.2.2003, p. 26). | [78] Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC (OJ L 41, 14.2.2003, p. 26). |

**Amendment 159**
**Proposal for a directive**
**Article 16 – paragraph 5**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 5. The Commission shall adopt implementing acts establishing the format of the register. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 21. | 5. The Commission shall ***by ... [OP : please insert date = 1 year from the entry into force of this Directive]*** adopt implementing acts establishing the format of the register. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 21. |

**Amendment 160**
**Proposal for a directive**
**Article 17 – title**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Union financing | Union ***and Member States'*** financing |

**Amendment 161**
**Proposal for a directive**
**Article 17 – paragraph 1 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Given the priority inherently attached to the establishment of soil monitoring and sustainable management and regeneration of soils, the implementation of this Directive ***shall be supported by existing Union financial programmes in accordance with their applicable rules and conditions***. | Given the priority inherently attached to the establishment of soil monitoring and sustainable management and regeneration of soils, ***by ... [OP: please insert date = 12 months from the entry into force of this Directive], the Commission shall submit a report to the European Parliament and to the Council evaluating the financial resources available at Union level for*** the implementation of this Directive***.*** |

**Amendment 162**
**Proposal for a directive**
**Article 17 – paragraph 1 – subparagraph 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***The Commission shall assess any gap between the available Union funding and funding needs for supporting Member States in the implementation of this Directive, paying specific attention to environmental monitoring needs, including LUCAS soil.*** |

**Amendment 163**
**Proposal for a directive**
**Article 17 – paragraph 1 – subparagraph 1 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Additional financial resources shall be put in place for the post-2027 period in order to promote the sustainable management of soils, their permanent regeneration and monitoring activities.*** |

**Amendment 164**
**Proposal for a directive**
**Article 17 – paragraph 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1a. When implementing this Directive, Member States shall make use of financial resources from appropriate sources, including Union, national, regional and local funds, to finance actions with a focus on soil protection, sustainable management and regeneration.*** |

**Amendment 165**
**Proposal for a directive**
**Article 17 – paragraph 1 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1b. The Commission shall monitor the capacity of Member States to absorb Union funds related to soil protection, sustainable management and regeneration. The Commission shall provide training and technical support to increase the absorption capacity of the Member States.*** |

**Amendment 166**
**Proposal for a directive**
**Article 17 – paragraph 1 c (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1c. Member States and the Commission, in collaboration with the European*** |

***Investment Bank, shall improve and facilitate the use of innovative financing mechanisms and promote the mobilisation of private capital for actions necessary to achieve the objectives of this Directive.***

**Amendment 167**
**Proposal for a directive**
**Article 17 – paragraph 1 d (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1d. Member States and the Commission shall observe the 'do no significant harm' principle within the meaning of Article 17 of Regulation (EU) 2020/852 for the implementation of this Directive.*** |

**Amendment 168**
**Proposal for a directive**
**Article 18 – paragraph 1 – subparagraph 1 – introductory part**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall electronically report the following data and information to the Commission and to the EEA every ***5*** years: | Member States shall electronically report the following data and information to the Commission and to the EEA ***at least*** every ***6*** years: |

**Amendment 169**
**Proposal for a directive**
**Article 18 – paragraph 1 – subparagraph 1 – point b**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (b) a trend analysis of the soil health for the descriptors listed in parts A, B, and C of Annex I and for the land take and soil sealing indicators listed in part D of Annex I in accordance with Article 9; | (b) ***the supporting data, metadata and*** a trend analysis of the soil health for the descriptors listed in parts A, B, and C of Annex I***, according to the selected tier for soil monitoring design*** and for the land take and soil sealing indicators listed in part D of Annex I in accordance with Article 9***, including the extended descriptors indicated by individual Member States***; |

**Amendment 171**
**Proposal for a directive**
**Article 18 – paragraph 1 – subparagraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| The first reports shall be submitted by … (OP: please insert date = ***5*** years ***and 6*** months after entry into force of the Directive). | The first reports shall be submitted by … (OP: please insert date = ***6*** years after entry into force of the Directive). |

**Amendment 172**
**Proposal for a directive**
**Article 18 – paragraph 3 – point a**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (a) an up-to-date list and spatial data of their soil districts referred to in Article 4 by … (OP: please insert the date = ***2 years and 3*** months after date of entry into force of the Directive); | (a) an up-to-date list and spatial data of their soil districts referred to in Article 4 by … (OP: please insert the date = ***12*** months after date of entry into force of the Directive) ***and, where available, their respective soil district plans***; |

**Amendment 173**
**Proposal for a directive**
**Article 18 – paragraph 3 – point b**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (b) an up-to-date list of the competent authorities referred to in Article 5 by … (OP: please insert the date = ***2 years and 3*** months after date of entry into force of the Directive); | (b) an up-to-date list of the competent authorities referred to in Article 5 by … (OP: please insert the date = ***12*** months after date of entry into force of the Directive); |

**Amendment 174**
**Proposal for a directive**
**Article 18 – paragraph 3 – point c a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(ca) the measurements of the soil descriptors at the level of the sampling*** |

***point.***

**Amendment 175**
**Proposal for a directive**
**Article 19 – paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. Member States shall make ***public*** the data generated by the monitoring carried out under Article 8 and the ***assessment*** carried out under Article 9 of this Directive accessible to the public, in accordance with the provisions under Article 11 of Directive 2007/2/EC of the European Parliament and of the Council[79] for geographically explicit data and Article 5 of Directive (EU) 2019/1024 for other data. | 1. Member States shall make the data generated by the monitoring carried out under Article 8 and the ***assessments*** carried out under Article 9 ***and Article 10(3)*** of this Directive accessible to the public, in accordance with the provisions under Article 11 of Directive 2007/2/EC of the European Parliament and of the Council[79] for geographically explicit data and Article 5 of Directive (EU) 2019/1024 for other data. |
| [79] Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (OJ L 108, 25.4.2007, p. 1). | [79] Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (OJ L 108, 25.4.2007, p. 1). |

**Amendment 231**
**Proposal for a directive**
**Article 19 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. The Commission shall ensure that soil health data made accessible through the digital soil health data portal referred to in Article 6 is available to the public in accordance with Regulation (EU) 2018/1725 of the European Parliament and of the Council[81] and Regulation (EC) No 1367/2006 of the European Parliament and of the Council[82]. | 2. The Commission shall ensure that ***relevant*** soil health data made accessible through the digital soil health data portal referred to in Article 6 is available to the public ***only with the express permission of the landowner and land manager, in an aggregated and anonymised form,*** in accordance with Regulation (EU) 2018/1725 of the European Parliament and of the Council[81] and Regulation (EC) No 1367/2006 of the European Parliament and of the Council[82]. |
| [81] Regulation (EU) 2018/1725 of the | [81] Regulation (EU) 2018/1725 of the |

European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC (OJ L 295, 21.11.2018, p. 39).

[82] Regulation (EC) No 1367/2006 of the European Parliament and of the Council of 6 September 2006 on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies (OJ L 264, 25.9.2006, p. 13).

European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC (OJ L 295, 21.11.2018, p. 39).

[82] Regulation (EC) No 1367/2006 of the European Parliament and of the Council of 6 September 2006 on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies (OJ L 264, 25.9.2006, p. 13).

**Amendment 232**
**Proposal for a directive**
**Article 19 – paragraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 3. Member States shall ensure that the information referred to in Article 18 of this Directive is available and accessible to the public in accordance with Directive 2003/4/EC, Directive 2007/2/EC and Directive (EU) 2019/1024 of the Parliament and of the Council[83]. | 3. Member States shall ensure that the ***relevant*** information referred to in Article 18 of this Directive is available and accessible to the public ***only with the express permission of the landowner and land manager, in an aggregated and anonymised form,*** in accordance with Directive 2003/4/EC, Directive 2007/2/EC and Directive (EU) 2019/1024 of the Parliament and of the Council[83]. |

[83] Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (OJ L 172, 26.6.2019, p. 56).

[83] Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (OJ L 172, 26.6.2019, p. 56).

**Amendment 176**
**Proposal for a directive**
**Article 19 – paragraph 4 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***4a. Member States shall adopt measures to ensure that soil related information collected through the implementation of this Directive is made available to the potential buyer or potential tenant of the relevant land plot.*** |

**Amendment 177**
**Proposal for a directive**
**Article 20 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. The power to adopt delegated acts referred to in Articles 8, ***10, 15 and 16*** shall be conferred on the Commission for an indeterminate period of time from the date of entry into force of this Directive**.** | 2. The power to adopt delegated acts referred to in Articles 8, ***9 and 15*** shall be conferred on the Commission for an indeterminate period of time from the date of entry into force of this Directive |

**Amendment 178**
**Proposal for a directive**
**Article 20 – paragraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 3. The delegation of power referred to in Articles 8, ***10, 15 and 16*** may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force. | 3. The delegation of power referred to in Articles 8, ***9 and 15*** may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force. |

**Amendment 179**
**Proposal for a directive**
**Article 20 – paragraph 6**

| *Text proposed by the Commission* | *Amendment* |
|---|---|

| | |
|---|---|
| 6. A delegated act adopted pursuant to Articles 8, ***10, 15 and 16*** shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council. | 6. A delegated act adopted pursuant to Articles 8, ***9 and 15*** shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council. |

**Amendment 180**
**Proposal for a directive**
**Article 22 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall determine what constitutes a sufficient interest and impairment of a right, consistently with the objective of providing the public with wide access to justice***. For the purposes of paragraph 1, any non-governmental organisation promoting environmental protection and meeting any requirements under national law*** shall ***be deemed to have rights capable of being impaired and their interest shall be deemed sufficient***. | Member States shall determine what constitutes a sufficient interest and impairment of a right, consistently with the objective of providing the public with wide access to justice ***in line with Article 9 of the Aarhus Convention. The recognition of standing*** shall ***not be conditional on the member of the public concerned having played a role during a participatory phase of the decision-making procedures under this Directive***. |

**Amendment 234**
**Proposal for a directive**
**Article 23**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***Article 23*** | ***deleted*** |
| ***Penalties*** | |
| ***1. Without prejudice to the obligations of Member States under Directive 2008/99/EC of the European Parliament and of the Council, Member States shall lay down the rules on penalties applicable to violations by natural and legal persons, of the national provisions adopted pursuant to this Directive and shall*** | |

***ensure that those rules are implemented. The penalties provided for shall be effective, proportionate and dissuasive.***

***2. The penalties referred to in paragraph 1 shall include fines proportionate to the turnover of the legal person or to the income of the natural person having committed the violation. The level of the fines shall be calculated in such a way as to make sure that they effectively deprive the person responsible for the violation of the economic benefits derived from that violation. In the case of a violation committed by a legal person, such fines shall be proportionate to the legal person's annual turnover in the Member State concerned, taking account, inter alia, the specificities of small and medium-sized enterprises (SMEs).***

***3. Member States shall ensure that the penalties established pursuant to this Article give due regard to the following, as applicable:***

***(a) the nature, gravity, and extent of the violation;***

***(b) the intentional or negligent character of the violation;***

***(c) the population or the environment affected by the violation, bearing in mind the impact of the infringement on the objective of achieving a high level of protection of human health and the environment.***

***4. Member States shall without undue delay notify the Commission of the rules and measures referred to in paragraph 1 and of any subsequent amendments affecting them.***

**Amendment 186**
**Proposal for a directive**
**Article 24 – paragraph 1 – introductory part**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. By (OP :please insert the date = 6 | 1. By (OP :please insert the date = 6 |

years after the date of entry into force of the Directive), the Commission shall carry out an evaluation of this Directive to assess the progress towards its objectives and the need to amend its provisions in order to ***set more specific*** requirements to ensure ***that unhealthy soils are regenerated and that*** all soils ***will be*** healthy by 2050. This evaluation shall take into account, inter alia, the following elements:

years after the date of entry into force of the Directive), the Commission shall carry out an evaluation of this Directive to assess the progress towards its objectives and the need to amend its provisions in order to ***adapt the*** requirements ***laid down in this Directive*** to ensure ***continuous progress towards*** all soils ***being*** healthy by 2050. This evaluation shall take into account, inter alia, the following elements:

**Amendment 187**
**Proposal for a directive**
**Article 24 – paragraph 1 – point c**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (c) relevant scientific and analytical data, including results from research projects funded by the Union; | (c) relevant scientific and analytical data, including results from research projects funded by the Union ***and by Member States***; |

**Amendment 188**
**Proposal for a directive**
**Article 24 – paragraph 1 – point d**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (d) an analysis of the gap ***towards achieving*** healthy soils by 2050; | (d) an analysis of the gap ***and measures needed to achieve*** healthy soils by 2050; |

**Amendment 189**
**Proposal for a directive**
**Article 24 – paragraph 1 – point e – point ii**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (ii) the establishment of criteria for soil descriptors listed in ***part C of*** annex I; | (ii) the establishment of criteria for soil descriptors listed in annex I; |

**Amendment 190**
**Proposal for a directive**
**Article 24 – paragraph 1 – point e – point iii**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (iii) the addition of new soil descriptors for monitoring purposes**.** | (iii) the addition of new soil descriptors for monitoring purposes ***or the adjustment of existing soil descriptors and criteria in Annex I;*** |

**Amendment 191**
**Proposal for a directive**
**Article 24 – paragraph 1 – point e a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(ea) an analysis of the monitoring designs provided for and threshold values set by Member States under this Directive;*** |

**Amendment 192**
**Proposal for a directive**
**Article 24 – paragraph 1 – point e b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(eb) the socioeconomic impact of this Directive.*** |

**Amendment 193**
**Proposal for a directive**
**Article 24 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. The Commission shall present a report on the main findings of the evaluation referred to in paragraph 1 to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions. | 2. The Commission shall present a report on the main findings of the evaluation referred to in paragraph 1 to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions***, accompanied, where appropriate, by a legislative proposal***. |

**Amendment 194**
**Proposal for a directive**
**Article 24 – paragraph 2 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***2a. From ... [OP: please insert the date = eight years from the date of entry into force of this Directive] and every five years thereafter, the Commission shall report to the European Parliament and to the Council on the implementation of this Directive including the measures necessary to comply with this Directive taken by Member States. The report shall include an overall assessment of the progress made towards achieving healthy soils.*** |

**Amendment 195**
**Proposal for a directive**
**Article 24 – paragraph 2 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***2b. By ... [OP: please insert the date = 6 years from the date of entry into force of the Directive], the Commission shall assess, as part of the assessment referred to in paragraph 1, the information collected in Member States regarding the occurrence, dispersion and values of soil contaminants, with a view to establishing a list of priority substances, followed by a watch list on soil contaminants, where appropriate.*** |

**Amendment 196**
**Proposal for a directive**
**Article 24 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Article 24a*** |
| | ***European Union Soil Observatory*** |

***Part A: soil descriptors with criteria for healthy soil condition established at Union level***

***(EUSO) Forum***

***The Commission shall, through the EUSO Forum, facilitate the cooperation at regular intervals between stakeholders, including Member States' competent authorities at all relevant levels, industry, civil society, and the scientific community. The EUSO Forum shall facilitate the coordinated implementation of Union law and policies related to soil health monitoring and the improvement of soil health, inter alia by exchange of experience and good practices, including on sustainable soil management and regeneration practices, as well as exchange of experience on soil management practices to be avoided.***

**Amendment 197**
**Proposal for a directive**
**Annex I – Title**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| SOIL DESCRIPTORS,CRITERIA ***FOR HEALTHY SOIL CONDITION***, AND LAND TAKE AND SOIL SEALING INDICATORS | SOIL DESCRIPTORS, CRITERIA ***AND METHODS FOR THE DETERMINATION OF SOIL ECOLOGICAL STATUS***, AND LAND TAKE AND SOIL SEALING INDICATORS |

**Amendment 198**
**Proposal for a directive**
**Annex I – table – Part A**

*Text proposed by the Commision*

| *Part A: soil descriptors with criteria for healthy soil condition established at Union level* | | | |
|---|---|---|---|
| ***Salinisation*** | ***Electrical Conductivity (deci-Siemens per meter)*** | ***< 4 dS $m^{-1}$ when using saturated soil paste extract (eEC) measurement method, or equivalent criterion if using another measurement method*** | ***Naturally saline land areas;Land areas directly affected by sea level rise*** |
| ***Soil erosion*** | ***Soil erosion rate (tonnes per hectare per year)*** | ***≤ 2 t $ha^{-1}$ $y^{-1}$*** | ***Badlands and other unmanaged natural land areas, except if they represent a significant disaster risk*** |
| ***Loss of soil organic carbon*** | ***Soil Organic Carbon (SOC) concentration (g per kg)*** | ***- For organic soils: respect targets set for such soils at national level in accordance with Article 4.1, 4.2, 9.4 of Regulation (EU) …/…+*** | ***No exclusion*** |
| | | ***- For mineral soils: SOC/Clay ratio > 1/13; Member States may apply a corrective factor where specific soil types or climatic conditions justify it, taking into account the actual SOC content in permanent grasslands.*** | ***Non-managed soils in natural land areas*** |

<table>
<tr>
<td>Subsoil compaction</td>
<td>Bulk density in subsoil (upper part of B or E horizon[1]); Member States may replace this descriptor with an equivalent parameter (g per cm³)</td>
<td>
<table>
<tr><th>Soil texture[2]</th><th>range</th></tr>
<tr><td>sand, loamy sand, sandy loam, loam</td><td><1.80</td></tr>
<tr><td>Sandy clay loam, loam, clay loam, silt, silt loam</td><td><1.75</td></tr>
<tr><td>silt loam, silty clay loam</td><td><1.65</td></tr>
<tr><td>Sandy clay, silty clay, clay loam with 35-45% clay</td><td><1.58</td></tr>
<tr><td>Clay</td><td><1.47</td></tr>
</table>
In case a Member State replaces the soil descriptor “bulk density in subsoil” with an equivalent parameter, it shall adopt a criterion for healthy soil condition for the chosen soil descriptor that is equivalent to the criterion set for “bulk density in subsoil”.
</td>
<td>Non-managed soils in natural land areas</td>
</tr>
</table>

_____

[+] ***OP : please insert in the text the number of Regulation on nature restoration contained in document COM(2022) 304***

[1] ***As defined in the FAO Guidelines for Soil Description, Chapter 5 (https://www.fao.org/3/a0541e/a0541e.pdf )***

[2] ***As defined in Arshad, M.A., B. Lowery, and B. Grossman. 1996. Physical tests for monitoring soil quality. p.123-142. In: J.W. Doran and A.J. Jones (eds.) Methods for assessing soil quality. Soil Sci. Soc. Am. Spec. Publ. 49. SSSA, Madison, WI.***

[2] As defined in Arshad, M.A., B. Lowery, and B. Grossman. 1996. Physical tests for monitoring soil quality. p.123-142. In: J.W. Doran and A.J. Jones (eds.) Methods for assessing soil quality. Soil Sci. Soc. Am. Spec. Publ. 49. SSSA, Madison, WI.

*Amendment*

| | | | |
|---|---|---|---|
| ***Part A: Tier 1 soil monitoring design***<br><br>***A Member State qualifies for a Tier 1 soil monitoring design if it meets all the criteria defined in column 2 and includes all soil descriptors.*** | | | |
| ***Sampling design*** | | | |
| ***Reference methodology*** | ***Criteria to meet*** | ***Exceptions*** | ***Notes*** |
| ***The sample survey shall be designed from a complete sample frame containing the best available information on the distribution of soil properties, including but not limited to information resulting from previous national measurements and measurements under the LUCAS programme.***<br><br>***The sampling scheme shall be a stratified random sampling.***<br><br>***The size of the national sample shall meet the requirement of a maximum percent error (or Coefficient of Variation) of 5% for the estimation of the area having healthy soils.***<br><br>***The Commission sample for the survey set under Article 6(4) shall contribute to a minimum of 20% of the size of national samples.***<br><br>***The allocation and size of the sample shall be determined by applying the Bethel algorithm (Bethel, 1989) accounting for the required maximum estimation error.*** | ***(a) Stratified random sampling based on land type; stratifiers may include climatic conditions, soil type, land type, and administrative regions according to Article 4***<br><br>***(b) The estimation of the number of samples shall be compliant with the use of the Bethel algorithm accounting for the required maximum estimation error.***<br><br>***(c) Allow for a percentage (up to 20% and no less than 10%) of the sampling sites to be dedicated to targeted sampling related to investigations or risk assessment.*** | ***In case there is at the Member State level a sampling design that meets the criteria established for Tier 1, the reference methodology can be adapted or other design approaches proposed to the Commission provided that the implemented design provides sufficient coverage of the Member State in line with the reference methodology (including national and LUCAS samples). When adapting the reference methodology, Member States need to still comply with the in-situ design of the EC.*** | |
| ***Degradation factors*** | | | |
| ***Degradation factor*** | ***Soil descriptor*** | ***Exceptions*** | ***Notes*** |
| ***Soil erosion*** | • ***Soil erosion rate (tonnes of loss soil per*** | - | |

| | | | |
|---|---|---|---|
| | ***hectare per year (t $ha^{-1}$ $yr^{-1}$))*** | | |
| ***Loss of soil organic carbon*** | • ***Soil Organic Carbon (SOC) concentration (g of Carbon per kg (g $kg^{-1}$))*** | - | ***To be conducted for top soil (0-10cm, 10-30cm)*** |
| ***Soil compaction*** | • ***Bulk density in topsoil (g $cm^{-3}$)*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Excess nutrient content in soil*** | • ***Available phosphorus (mg $kg^{-1}$)***<br>• ***Total Nitrogen in soil (mg $g^{-1}$)*** | - | ***To be conducted for top soil (0-10cm, 10-30cm)*** |
| ***Soil contamination*** | • ***Concentration of heavy metals in soil: As, Sb, Cd, Co, Cr (total), Cr (VI), Cu, Hg, Pb, Ni, Tl, V, Zn (µg per kg)***<br>• ***Concentration of a selection of organic contaminants established by Member States and taking into account contaminants covered by Regulation (EU) No 2019/1021 and existing concentration limits e.g. for water quality and air emissions in Union legislation especially priority substances under the Water Framework Directive and related Environmental Quality Standards (Directive 2008/105/EC) and the Groundwater (Directive 2006/118/EC) Directives***<br>• ***Plant protection product candidates for substitution and*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |

| | | | |
|---|---|---|---|
| | ***substances authorised under emergency regime, and biocides residues***<br>• ***Per- and poly-fluorinated alkyl substances (PFAS) total or sum of PFAS total*** | | |
| ***Reduction of water retention*** | • ***Soil water holding capacity of the soil sample (% of volume of water)***<br>• ***Volume of saturated soil*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Acidification*** | • ***Soil acidity (pH $H_2O$)*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil ecological functions*** | | | |
| ***Ecological function*** | ***Soil descriptor*** | ***Exceptions*** | ***Notes*** |
| ***Soil aggregation*** | • ***water-stable aggregates (%)*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil respiration*** | • ***Soil microbial basal respiration (µl $O_2$ $h^{-1}$ $g^{-1}$ soil dry weight)*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil biomass*** | • ***Soil microbial biomass carbon (Cmic µg C $g^{-1}$ soil dry weight)*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil biodiversity*** | | | |

| *Soil biodiversity feature* | *Soil descriptor* | *Exceptions* | *Notes* |
|---|---|---|---|
| *Taxonomic diversity* | • *Diversity of soil organisms through (presence counts per taxonomic group) based on metabarcoding targeting the 16S and 18S rRNA gene regions and using the Internal transcribed spacer region (ITS) in particular for Fungi (additionally, other markers like COI for soil fauna can be considered)* | *-* | *To be conducted for top soil (0-10cm, 10-30cm (optional))* |
| *Population abundance* | • *Total abundances of bacteria and archaea (using 16S rRNA gene region copies)*<br>• *Total abundances of fungi (using 18S rRNA gene region copies)*<br>• *Total number and proportion of pathogenic fungi*<br>• *Total nematode abundance per functional group based on morphology (bacterial feeders, fungal feeders, root feeders, omnivores, predators)* | *-* | *To be conducted for top soil (0-10cm, 10-30cm (optional))* |
| *Soil habitat* | | | |
| *Soil habitat feature* | *Soil descriptor* | *Exceptions* | |
| *Soil structure* | • *Size class proportions (sand, silt, clay)*<br>• *Proportion of coarse materials (>2mm)* | *-* | *To be conducted for top soil (0-10cm, 10-30cm)* |

**Amendment 199**
**Proposal for a directive**
**Annex I – table – Part B**

*Text proposed by the Commision*

| *Part B: soil descriptors with criteria for healthy soil condition established at Member State level* | | |
|---|---|---|
| ***Excess nutrient content in soil*** | ***Extractable phosphorus (mg per kg)*** | ***< "maximum value";The "maximum value" shall be laid down by the Member State within the range 30-50 mg kg$^{-1}$*** |
| ***Soil contamination*** | ***- concentration of heavy metals in soil: As, Sb, Cd, Co, Cr (total), Cr (VI), Cu, Hg, Pb, Ni, Tl, V, Zn (µg per kg)***<br>***- concentration of a selection of organic contaminants established by Member States and taking into account existing concentration limits e.g. for water quality and air emissions in Union legislation*** | ***Reasonable assurance, obtained from soil point sampling, identification and investigation of contaminated sites and any other relevant information, that no unacceptable risk for human health and the environment from soil contamination exists Habitats with naturally high concentration of heavy metals that are included in Annex I of Council Directive 92/43/EEC[3] shall remain protected.*** |
| ***Reduction of soil capacity to retain water*** | ***Soil water holding capacity of the soil sample (% of volume of water / volume of saturated soil)*** | ***The estimated value for the total water holding capacity of a soil district by river basin or subbasin is above the minimal threshold. The minimal threshold shall be set (in tonnes) by the Member State at soil district and river basin or subbasin level at such a value that the impacts of floodings following intense rain events or of periods of low soil moisture due to drought events are mitigated.*** |

***[3] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7).***

| | | | |
|---|---|---|---|
| ***Part B: Tier 2 soil monitoring design***<br>***A Member State qualifies for a Tier 2 soil monitoring design if:***<br>***- it cumulatively includes all the soil descriptors for Tier 1 and the criteria defined in column 2 for the sampling design in Part B and includes at least 50% of the soil descriptors in Part B, or,***<br>***- cumulatively meets the criteria for soil sampling design of Tier 1 and includes all the soil descriptors in Parts A and B.*** | | | |
| ***Sampling design*** | | | |
| ***Reference methodology*** | ***Criteria to meet*** | ***Exceptions*** | ***Notes*** |
| ***Stratified systematic sampling using a spatial grid to ensure a homogeneous coverage of the Member State territory for all land types. Auxiliary information such as environmental zones or soil types can also be used to further refine the sampling design.***<br>***When available, Member States shall coordinate allocation of sampling points with other existing monitoring programmes such as national vegetation and forest inventories. The same applies to other types of censuses like the agricultural census to allow for a better data collection regarding management practices and an optimization of costs.***<br>***The allocation and size of the sample shall be determined by scientifically established methods for the applied sampling design, such as those referenced to in Bethel (1989) for stratified random sampling.*** | ***(a) Ensure the homogeneous coverage of the Member State territory for all land types (e.g., by implementing a systematic stratifier (e.g., a continuous grid) as part of the sampling design.***<br>***(b) Stratified random sampling based on land type; stratifiers may include climatic conditions, soil type, land type, and administrative regions according to Art. 4***<br>***(c) The estimation of the overall minimum number of samples shall follow the procedure in Tier 1.***<br>***(d) Allow for 20% of the sampling sites to be dedicated to targeted sampling related to investigations or risk assessment.*** | ***-*** | ***It is recommended that the design and implementation of the soil monitoring system includes multiple stakeholders and, when needed, international border agreements, to ensure that cost effective measures are considered and that available expertise is taken in consideration.*** |
| ***Degradation factors*** | | | |
| ***Degradation factor*** | ***Soil descriptor*** | ***Exceptions*** | ***Notes*** |
| ***Salinisation*** | • ***Electrical Conductivity (Siemens per meter (S $m^{-1}$))*** | ***-*** | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Land take*** | • ***Soil sealing (as percentage of land sealed by any type of man-made infrastructures per 100m2)*** | ***-*** | ***As reference, the sampling site should be considered the centroid of this assessment*** |

| | | | |
|---|---|---|---|
| ***Soil contamination*** | • ***Pharmaceutical and veterinary products*** | *-* | |
| ***Soil compaction*** | • ***Bulk density in subsoil; Member States may replace this descriptor with an equivalent parameter (g per $cm^3$)*** | ***Non-managed soils in natural land areas*** | ***To be conducted for sub soil (30-50, 50-100cm)*** |
| ***Soil ecological functions*** | | | |
| ***Ecological function*** | ***Soil descriptor*** | ***Exceptions*** | |
| ***Nutrient cycling*** | • ***nitrogen mineralisation,***<br>• ***nitrogen availability*** | *-* | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil aggregation*** | • ***water stable fraction-coarse matter*** | *-* | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Enzymatic activity*** | • ***Enzymatic activity potential for acid phosphatase (EC 3.13.2)***<br>• ***Enzymatic activity potential for N-acetylglucosaminidase (EC 3.2.1.50)***<br>• ***Enzymatic activity potential for xylosidase (EC 3.2.1.37)***<br>• ***Enzymatic activity potential for cellobiohydrolase (EC 3.2.1.91)***<br>• ***Enzymatic activity potential for β-glucosidase (EC 3.2.1.21)*** | *-* | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil biomass*** | • ***Microbial biomass as indicated by marker fatty acids (biomass per microbial functional group; ng FAME $g^{-1}$ soil dry weight)*** | *-* | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil biodiversity*** | | | |
| ***Soil biodiversity feature*** | ***Soil descriptor*** | ***Exceptions*** | ***Notes*** |
| ***Taxonomic diversity*** | • ***Diversity (richness) of soil animals per group based on morphological methods and may also*** | *-* | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |

| | | | |
|---|---|---|---|
| | *include image identification (Nematodes (for nematodes, classification should be done at least to family level) and Earthworms (for earthworms, classification should be done down to species level))*<br>• *Metagenome-based soil biodiversity taxonomic counts per taxonomic group* | | |
| *Population abundance* | • *Total abundances of fungi (using the Internal transcribed spacer region (ITS))* | - | *To be conducted for top soil (0-10cm, 10-30cm (optional))* |
| *Soil habitat* | | | |
| *Soil habitat feature* | *Soil descriptor* | *Exceptions* | *Notes* |

**Amendment 200**
**Proposal for a directive**
**Annex I – table – Part C**

*Text proposed by the Commission*

| *Part C: soil descriptors without criteria* | |
|---|---|
| *Aspect of soil degradation* | *Soil descriptor* |
| *Excess nutrient content in soil* | *Nitrogen in soil (mg $g^{-1}$)* |
| *Acidification* | *Soil acidity (pH)* |
| *Topsoil compaction* | *Bulk density in topsoil (A-horizon[4]) (g $cm^{-3}$)* |
| *Loss of soil biodiversity* | *Soil basal respiration ((mm$^3$ $O_2$ $g^{-1}$ $hr^{-1}$) in dry soil*<br>*Member States may also select other optional soil descriptors for biodiversity such as:*<br>*- metabarcoding of bacteria, fungi, protists and animals;*<br>*- abundance and diversity of nematodes;*<br>*- microbial biomass;*<br>*- abundance and diversity of earthworms (in cropland);*<br>*- invasive alien species and plant pests* |
| | |
| [4] *As defined in the FAO Guidelines for Soil Description, Chapter 5 (https://www.fao.org/3/a0541e/a0541e.pdf )* | |

*Amendment*

| | | | |
|---|---|---|---|
| ***Part C: Tier 3 soil monitoring design***<br>***A Member State qualifies for a Tier 3 soil monitoring design if it meets Tier 2 conditions and includes at least 50% of the soil descriptors in Part C.*** | | | |
| ***Degradation factors*** | | | |
| ***Degradation factor*** | ***Soil descriptor*** | ***Exceptions*** | ***Notes*** |
| ***Soil contamination*** | • ***Concentration of microplastics and nanoplastics*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil ecological functions*** | | | |
| ***Ecological function*** | ***Soil descriptor*** | ***Exceptions*** | ***Notes*** |
| ***Soil biomass*** | • ***Soil animal biomass (per taxonomic group (Nematodes and Earthworms); mg fresh (for Nematodes)/dry (for Earthworms) weight per g of dry soil)***<br>• ***Root biomass (mg dry weight per g soil dry weight)*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Community traits of roots*** | • ***Total nitrogen present in roots***<br>• ***Root length density***<br>• ***Mean root diameter***<br>• ***Variation in root diameter***<br>• ***Root dry matter content*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil biodiversity*** | | | |
| ***Soil biodiversity feature*** | ***Soil descriptor*** | ***Exceptions*** | ***Notes*** |
| ***Taxonomic diversity*** | • ***Diversity (richness) of soil animals per group (Collembola and mites)***<br>• ***Presence of invasive alien species***<br>• ***Diversity of viruses using metagenomic approaches*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Population abundance*** | • ***Total abundance of soil animals per taxa (for Nematodes and Earthworms)*** | - | ***To be conducted for top soil (0-10cm, 10-30cm (optional))*** |
| ***Soil habitat*** | | | |
| ***Soil habitat feature*** | ***Soil descriptor*** | ***Exceptions*** | ***Notes*** |

**Amendment 201**
**Proposal for a directive**
**Annex II – table – Part A**

*Text proposed by the Commission*

***Part A: Methodology for determining sampling points***

| ***Activity*** | ***Minimum criteria for methodology*** |
|---|---|
| ***Determination of soil sampling points (sample survey)*** | ***The sample survey shall be designed from a complete sample frame containing the best available information on the soil properties distribution, including, but not limited to, information resulting from previous national measurements and measurements under the LUCAS programme.***<br>***The sampling scheme shall be a stratified random sampling optimised on the soil health descriptors.***<br>***The size of the national sample shall meet the requirement of a maximum percent error (or Coefficient of Variation) of 5% for the estimation of the area having healthy soils.***<br>***The Commission sample for the survey set under Art 6(4) may contribute to a maximum of 20 % of the size of national samples.***<br>***The allocation and size of the sample shall be determined by applying the Bethel algorithm (Bethel, 1989)[5] accounting for the required maximum estimation error.*** |
| | |
| ***[5] Bethel, J. 1989. "Sample Allocation in Multivariate Surveys." Survey Methodology 15: 47–57.*** | |

*Amendment*

***Part A: General methods so sample soil biodiversity and soil ecological functions***

| ***Activity*** | ***Reference criteria for methodology*** |
|---|---|
| ***Soil ecological monitoring*** | ***The aim shall be to use a simple soil sampling protocol that can standardise soil ecological sampling across Member States and that is applicable to all Tier 1 and Tier 2 ecological soil descriptors (soil ecological functions, soil biodiversity and soil habitat descriptors) with the exception of soil fauna descriptors.***<br>***Following the sampling protocol adopted for SoilBON, considering a homogeneous square area of 30x30 meters, establish nine subsamples matching the corners of the squares, its centre, and the intermediate points. Using a metal soil corer or similar, extract the soil with a volume of 5 cm diameter and 10 cm depth. Soil depth can be increased to 30 cm, but the first (up to 10 cm) and second layer should be separated.*** |
| ***Soil fauna monitoring*** | ***For earthworms: hand sorting using protocols according to the sampling protocol laid out in Briones et al. 2020.***<br>***For nematodes: following the criteria established in the standard SoilBON sampling protocol.*** |

| | |
|---|---|
| | ***For Collembola and mites: following the protocols established in Potapov et al. 2022.*** |
| ***Other point-based soil descriptors*** | ***Member States shall use the LUCAS Soil methodology as a reference for soil sampling.*** |

**Amendment 202**
**Proposal for a directive**
**Annex II – table – Part B**

*Text proposed by the Commission*

| ***Soil descriptor*** | ***Reference methodology*** | ***Minimum methodological criteria*** | ***Validated transfer function required (if using a methodology different from the reference methodology[6])?*** |
|---|---|---|---|
| ***Soil texture (clay, silt and sand content – needed for the determination of other descriptors and related ranges)*** | ***Preferred method: ISO 11277:1998 Determination of particle size distribution in mineral soil material – Method by sieving and sedimentation Alternative method: ISO13320:2009 Particle size analysis – Laser diffraction methods*** | | ***YES*** |
| ***Electrical Conductivity*** | ***Option 1: saturated soil paste extract (eEC) measurement method (FAO SOP: GLOSOLAN-SOP-08[7])***<br>***Option 2: ISO 11265:1994 Determination of The Specific Electrical Conductivity;*** | | ***YES*** |
| ***Soil erosion rate*** | | ***Soil erosion rate estimation shall take into account all actions taken to mitigate or compensate the erosion risk,*** | ***N/A*** |

| | | | |
|---|---|---|---|
| | | ***including post-fire mitigation measures.***<br>***Soil erosion rate estimation shall include all relevant erosion processes such as erosion by water, wind, harvest and tillage.***<br>***Soil erosion by water shall be assessed by considering the following factors:***<br>***- soil characteristics (e.g. erodibility, soil crusting, soil roughness),***<br>***- climate (e.g. rainfall erosivity – intensity and duration, considering relevant climate change projections for a given area),***<br>***- topography (e.g. slope steepness and length),***<br>***- vegetation cover, crop type, land use and management practices to control or reduce erosion,***<br>***- management practices (e.g. cover crops, reduced tillage, mulching, etc.),***<br>***- burned areas.***<br>***Soil erosion by wind shall be assessed by considering the following factors:***<br>***- soil characteristics (e.g. erodibility),***<br>***- climate (e.g. soil moisture, wind speed, evaporation),***<br>***- vegetation (e.g. crop type),***<br>***- management practices to control*** | |

| | | | |
|---|---|---|---|
| | | *or reduce erosion (e.g. wind breaks).* | |
| *Soil Organic Carbon (SOC)* | *ISO 10694:1995 Determination of organic and total carbon after dry combustion* | | *YES* |
| *Bulk density in subsoil (B horizon[8]) or equivalent[9] parameter chosen by Member States* | *ISO 11272:2017 for determination of dry bulk density*<br><br>*In case an equivalent parameter is chosen, the methodology shall be either a European or International standard when available; if such standard is not available, the methodology chosen shall either be available in the scientific literature or publicly available.* | | *YES* |
| *Extractable phosphorus* | *ISO 11263:1994 for spectrometric determination of phosphorus soluble in sodium hydrogen carbonate solution (P-Olsen)* | | *YES* |
| *- Concentration of heavy metals in soil: As, Sb, Cd, Co, Cr (total), Cr (VI), Cu, Hg, Pb, Ni, Tl, V, Zn*<br>*- Concentration of a selection of organic contaminants defined by Member States and taking into account existing EU legislation* | *Potential environmental available content of heavy metals in soils based on ISO 17586:2016 using dilute nitric acid.* | *Use European or International standards when available; if such standard is not available, the methodology chosen shall either be available in the scientific literature or publicly available* | *YES*<br>*N/A* |

| | | | |
|---|---|---|---|
| *(e.g. on water quality or pesticides)* | | | |
| *Soil water holding capacity* | *Methodology to determine the value for one sample point:*<br>*Option 1: LABORATORY: ISO 11274:2019 for determination of the water-retention characteristic.*<br>*Option 2: ESTIMATION: apply methodology described in the scientific article "New generation of hydraulic pedotransfer functions for Europe"[10] based on texture (or particle size distribution) and soil organic carbon.* | *Minimum criteria for estimating the total soil water holding capacity of a soil district on a river basin or sub-basin scale:*<br>*- for the area of land not taken estimate the total value of soil water holding capacity*<br>*- for the area of land taken, consider setting the water holding capacity of impervious areas to zero, attributing proportionately intermediate values to semi-impervious and other artificial areas.* | *YES (for point value)* |
| *Nitrogen in soil* | *ISO 11261:1995 for determination of total soil nitrogen using a modified Kjeldahl method* | | *YES* |
| *Soil acidity* | *ISO 10390:2005 for determination of pH in H2O and CaCl2 extract (pH-H2O and pH-CaCl2)* | | *YES* |
| *Bulk density in "topsoil" (A-horizon[113])* | *ISO 11272:2017 for determination of dry bulk density* | | *YES* |
| *Soil basal respiration*<br>*Member States may also select optional soil biodiversity descriptors such as:* | *Follow indications described in the scientific article "Microbial biomass and activities in soil as affected by frozen and cold storage"[13]* | *Use European or international standards when available; if such standard is not available, the methodology chosen shall either be available in the scientific literature or publicly available.* | *YES*<br>*For other soil biodiversity descriptors: N/A* |

[3] As defined in the FAO Guidelines for Soil Description, Chapter 5 (https://www.fao.org/3/a0541e/a0541e.pdf )

| | | | |
|---|---|---|---|
| *-Metabarcoding[12] of bacteria, fungi, protists and animals;*<br>*- Abundance and diversity of nematodes;*<br>*- Microbial biomass;*<br>*- Abundance and diversity of earthworms (in cropland)* | | | |

*[6] The methodologies different from the reference methodology shall either be available in the scientific literature or publicly available.*

*[7] https://www.fao.org/3/cb3355en/cb3355en.pdf*

*[8] As defined in the FAO Guidelines for Soil Description, Chapter 5 (https://www.fao.org/3/a0541e/a0541e.pdf )*

*[9] Equivalent according to the EEA report: Soil monitoring in Europe – Indicators and thresholds for soil health assessments — European Environment Agency (europa.eu)*

*[10]*

*[11] As defined in the FAO Guidelines for Soil Description, Chapter 5 (https://www.fao.org/3/a0541e/a0541e.pdf )*

*[12] Sequencing of DNA barcodes for measuring taxonomical and functional diversity of archaea, bacteria, fungi and other eukaryotes as was done for LUCAS Soil Biodiversity based on https://doi.org/10.1111/ejss.13299*

*[13] https://www.sciencedirect.com/science/article/abs/pii/S0038071797001259*

*Amendment*

| *Soil descriptor* | *Reference methodology* | *Minimum methodological criteria* | *Validated transfer function required (if using a methodology different from the reference methodology)* |
|---|---|---|---|
| *Soil texture (clay, silt and sand content – needed for the* | *Preferred method: ISO 11277:1998 Determination of particle size distribution in* | | *YES* |

| | | | |
|---|---|---|---|
| ***determination of other descriptors and related ranges)*** | ***mineral soil material – Method by sieving and sedimentation***<br><br>***Alternative method: ISO13320:2009 Particle size analysis – Laser diffraction methods*** | | |
| ***Electrical Conductivity*** | ***Option 1: saturated soil paste extract (eEC) measurement method (FAO SOP: GLOSOLAN-SOP-08[6])***<br><br>***Option 2: ISO 11265:1994 Determination of The Specific Electrical Conductivity;*** | | ***YES*** |
| ***Soil erosion rate*** | | ***Soil erosion rate estimation shall take into account all actions taken to mitigate or compensate the erosion risk, including post-fire mitigation measures.***<br><br>***Soil erosion rate estimation shall include all relevant erosion processes such as erosion by water, wind, harvest and tillage.***<br><br>***Soil erosion by water shall be assessed by considering the following factors:***<br><br>- ***soil characteristics (e.g. erodibility, soil crusting, soil roughness),***<br><br>- ***climate (e.g. rainfall erosivity – intensity and duration, considering relevant climate change projections for a given area),***<br><br>- ***topography (e.g. slope steepness and length),***<br><br>- ***vegetation cover, crop and forest type, land use and management practices to control or reduce erosion,*** | ***N/A*** |

| | | | |
|---|---|---|---|
| | | - *management practices (e.g. cover crops, reduced tillage, mulching, etc.),*<br><br>- *burned areas.*<br><br>*Soil erosion by wind shall be assessed by considering the following factors:*<br><br>- *soil characteristics (e.g. erodibility),*<br><br>- *climate (e.g. soil moisture, wind speed, evaporation),*<br><br>- *vegetation (e.g. crop type),*<br><br>- *management practices to control or reduce erosion (e.g. wind breaks),*<br><br>- *burned areas* | |
| *Soil Organic Carbon (SOC)* | *ISO 10694:1995 Determination of organic and total carbon after dry combustion* | | *YES* |
| *Bulk density in subsoil or equivalent[7] parameter chosen by Member States* | *ISO 11272:2017 for determination of dry bulk density*<br><br>*In case an equivalent parameter is chosen, the methodology shall be either a European or International standard when available; if such standard is not available, the methodology chosen shall either be available in the scientific literature or publicly available.* | | *YES* |
| *Extractable phosphorus* | *ISO 11263:1994 for spectrometric determination of phosphorus soluble in sodium hydrogen carbonate solution (P-Olsen)* | | *YES* |

| | | | |
|---|---|---|---|
| *- Concentration of heavy metals in soil: As, Sb, Cd, Co, Cr (total), Cr (VI), Cu, Hg, Pb, Ni, Tl, V, Zn*<br>*- Concentration of a selection of organic contaminants defined by Member States and taking into account existing EU legislation (e.g. on water quality or pesticides)*<br><br>*- Pesticide and biocides residues, veterinary products*<br><br>*- PFAS* | *Potential environmental available content of heavy metals in soils based on ISO 17586:2016 using dilute nitric acid.* | *Use European or International standards when available; if such standard is not available, the methodology chosen shall either be available in the scientific literature or publicly available* | *YES*<br><br>*N/A* |
| *Soil water-holding capacity* | *Methodology to determine the value for one sample point:*<br><br>*Option 1: LABORATORY: ISO 11274:2019 for determination of the water-retention characteristic.*<br><br>*Option 2: ESTIMATION: apply methodology described in the scientific article "New generation of hydraulic pedotransfer functions for Europe" based on texture (or particle size distribution) and soil organic carbon.* | *Minimum criteria for estimating the total soil water-holding capacity of a soil district on a river basin or sub-basin scale:*<br><br>- *for the area of land not taken estimate the total value of soil water holding capacity*<br><br>- *for the area of land taken, consider setting the water-holding capacity of impervious areas to zero, attributing proportionately intermediate values to semi-impervious and other artificial areas.* | *YES* |
| *Nitrogen in soil* | *ISO 11261:1995 for determination of total soil nitrogen using a modified Kjeldahl method* | | *YES* |
| *Soil acidity* | *ISO 10390:2005 for determination of pH in H2O and CaCl2 extract* | | *YES* |

| | | | |
|---|---|---|---|
| | ***(pH-H2O and pH-CaCl2)*** | | |
| ***Bulk density in "topsoil"*** | ***ISO 11272:2017 for determination of dry bulk density*** | | ***YES*** |
| ***Nutrient cycling*** | ***For nitrogen mineralization, air-dried soil samples are re-wetted to reach 80% of their water holding capacity and incubated in the laboratory for 14 days at 30ºC. The potential net N mineralization rate is estimated as the difference between initial and final inorganic N. The availability of soil nutrients is calculated using root simulators, available N and P is determined by using a colorimetric determination based on the reaction with ammonium molybdate.*** | | ***YES*** |
| ***Soil aggregation*** | ***These soil descriptors are reported as water-stable soil aggregates assessed by determining the resistance of soil aggregates against water as a disintegrating force, by applying an approach modified from Kemper and Rosenau (1986). The resulting index represents the percentage of water-stable aggregates***<br><br>***with a diameter smaller than 4 mm. Additionally, debris (i.e., coarse matter) will be separated from the water-stable fraction to correctly determine the water-stable aggregates (WSA) fraction of the sample: %WSA=(water stable fraction-coarse matter)/(4 g-coarse*** | | ***YES*** |

| | | | |
|---|---|---|---|
| | ***matter).*** | | |
| ***Enzymatic activity*** | ***Follow the indications described in Zeiss et al., 2022*** | | ***YES*** |
| ***Soil respiration*** | ***Follow indications described in the scientific article "Microbial biomass and activities in soil as affected by frozen and cold storage"[8]*** | | ***YES*** |
| ***Litter decomposition*** | | ***Use European or international standards when available; if such standard is not available, the methodology chosen shall either be available in the scientific literature or publicly available.*** | ***N/A*** |
| ***Soil biomass*** | ***Follow the indications described in Guerra et al., 2021, Briones et al. 2020, and Potapov et al. 2022*** | | ***YES*** |
| ***Community traits of roots*** | ***Follow the indications described in Guerra et al., 2021*** | | ***YES*** |
| ***Taxonomic diversity*** | ***Follow the indications described in Guerra et al., 2021*** | | ***YES*** |
| ***Population abundance*** | ***Follow the indications described in Guerra et al., 2021*** | | ***YES*** |
| ***Intraspecific genetic diversity*** | ***Follow the indications described in Guerra et al., 2021*** | | ***YES*** |
| ***Soil structure*** | ***Granulometric analysis is performed on sieved soil (Ø < 2 mm), after the destruction of the organic matter with H2O2. The dispersion is carried out with a solution of hexametaphosphate/sodium carbonate and stirred for 16 hours. The granulometric fractions considered are those recommended by the*** | | ***YES*** |

| | | | |
|---|---|---|---|
| | ***International Union of Soil Science (Atterberg Scale), which are coarse sand (2 > Ø > 0.2 mm), fine sand (0.2 > Ø > 0.02 mm), silt (0.02 > Ø > 0.002 mm) and clay (Ø < 0.002 mm). The coarse sand fraction is determined by sieving, the silt and clay fractions are determined by sedimentation and pipetting using a Robinson pipette and the fine sand by sedimentation and decantation. Sedimentation times are calculated using the Stokes Law.*** | | |

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[6] ***https://www.fao.org/3/cb3355en/cb3355en.pdf***

[7] ***Equivalent according to the EEA report: Soil monitoring in Europe – Indicators and thresholds for soil health assessments — European Environment Agency (europa.eu)***

[8] ***https://www.sciencedirect.com/science/article/abs/pii/S0038071797001259***

**Amendment 260**

**Proposal for a directive**
**Annex III**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***[...]*** | ***deleted*** |

**Amendment 214**
**Proposal for a directive**
**Annex IV – introductory part**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***The following indicative list of programmes, plans, targets and measures shall be taken into account:*** |

**Amendment 215**
**Proposal for a directive**
**Annex IV – point 8 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(8a) The national biodiversity strategies and action plans established in accordance with Article 6 of the United Nations Convention on Biological Diversity.*** |

**Amendment 216**
**Proposal for a directive**
**Annex IV – point 14**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (14) The national actions plans adopted in accordance with Article ***8 of Regulation …/…***[18] +. | (14) The national actions plans adopted in accordance with Article ***4 of Directive 2009/128/EC***. |

[18] ***+ OP : please insert in the text the number of Regulation of the European Parliament and of the Council the sustainable use of plant protection products and amending Regulation (EU) 2021/2115 contained in document COM(2022)305***