ISLANDR
for soil health

ADVANCING SUSTAINABLE AND RISK-BASED LAND MANAGEMENT SRBLM

Funded by
the European Union

Advancing sustainable and risk-based land management (SRBLM)

ISLANDR is a Horizon Europe project addressing Remediation strategies, methods and financial models for decontamination and reuse of land in urban and rural areas (see box below). **This short consultation paper sets out how ISLANDR plans to advance the state of practice of sustainable and risk based land management (SRBLM)** to better consider the use of low input remediation, circular economy perspectives, the achievement of wider value and protection or enhancement of soil health. The outcomes of this work will be summarised in a **user-friendly roadmap to support a range of stakeholders for a range of problem scenarios**. Within each section of this paper we ask some **short questions, and would greatly appreciate your responses**. We also have some specific questions about contaminants of emerging concern. There are 15 questions in total for your feedback here.

The international consensus that has emerged over the past 20-30 years is that decisions regarding contaminated sites should be made based on understanding and managing **risks to human health and the wider environment, taking into account the current or planned use of the land**. More recently there has been a growing emphasis that risk management should also align with sustainable development principles. This integrated approach is known as sustainable and risk-based land management (SRBLM), see Figure 1, and is increasingly recognised in international practice, policy, and regulation. Risk management of contaminated sites depends on knowledge of the linkages between sources, pathways and receptors, an estimation of their seriousness and the development of strategies to break linkages that lead to unacceptable risks. The sustainability of risk management can be considered at multiple stages, including: how best to manage a portfolio of sites, the design and planning of any change in site use, and/or the choices made between different risk management (i.e. remediation) techniques.

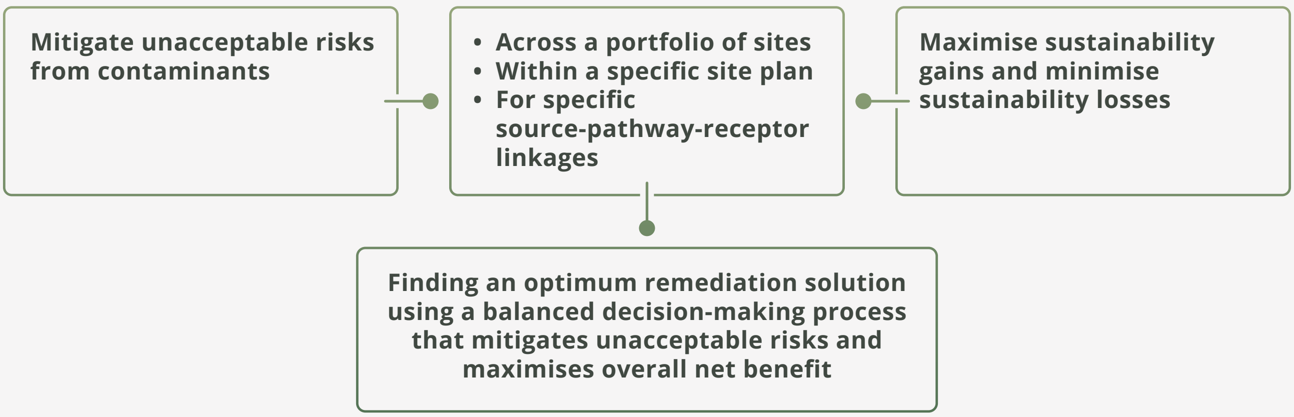

Figure 1: Current state of practice of SRBLM

The ISLANDR Project (Information-based Strategies for Land Remediation) has 14 partners from around Europe and is funded by Horizon Europe (Grant agreement 101112889) and national contributions from the UK and Switzerland to a total of €6.9 million. ISLANDR aims to promote the delivery of Green Deal objectives, in particular achieving Zero Pollution by reducing soil pollution and enhancing restoration.

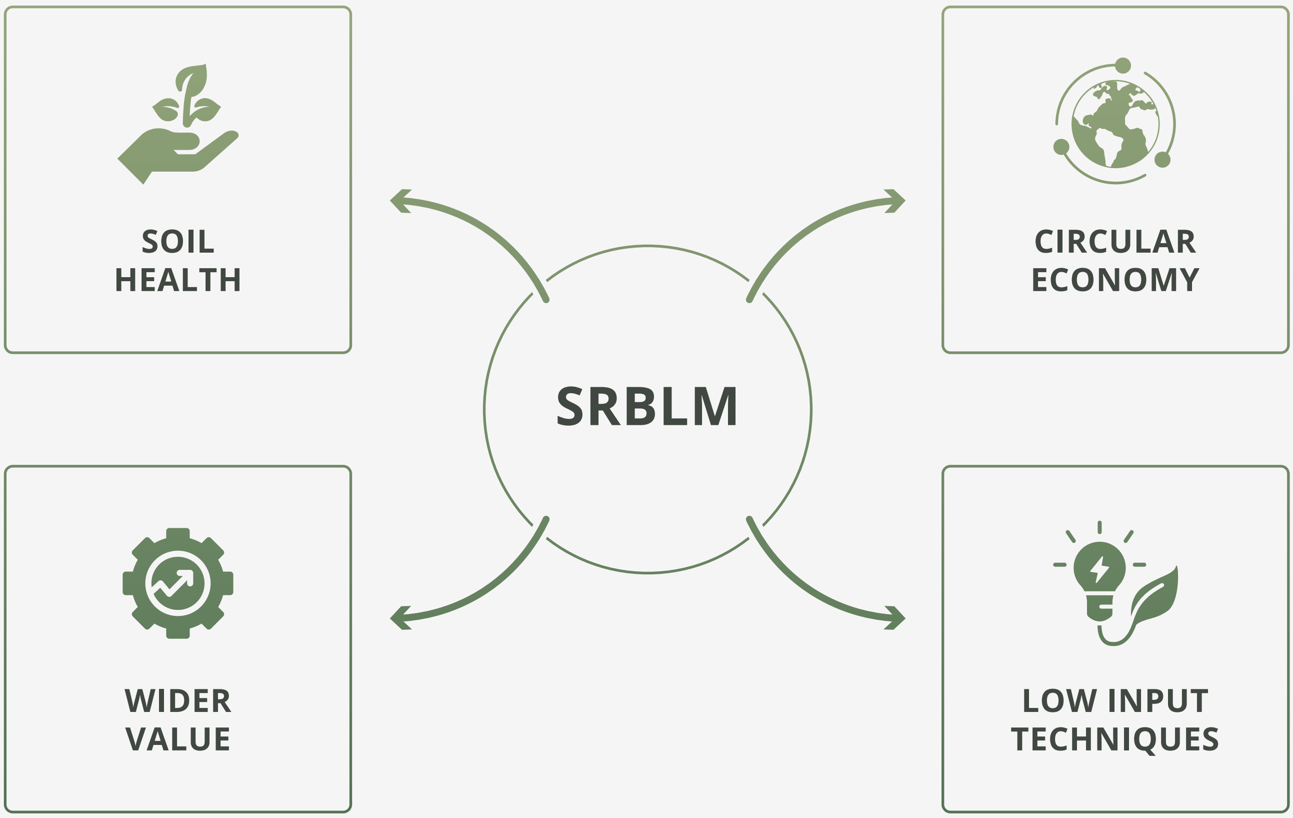

Figure 2: Future directions for SRBLM from ISLANDR

As shown in Figure 2, ISLANDR seeks to embed into SRBLM the concepts of using low input remediation techniques where useful, the achievement of a circular economy, a more tangible understanding of wider value from contaminated site management and more direct consideration of the importance of soil health. These key concepts are summarised below.

Soil health has been defined as the continued capacity of soils to support ecosystem services where ecosystem services are understood as the services provided and the benefits people derive from these services, both at the ecosystem and at the landscape scale, including public goods related to the wider ecosystem functioning and society well-being, which includes the concept of soil functionality. Soil health depends on the biological, chemical, and physical properties of soil which underpins its function.

Circular economy is described as "an economic system focused on maximising the reuse of resources and products, and minimising their depreciation." Remediation activities can contribute to the CE from two perspectives: they promote the reuse of previously developed land rather than greenfield developments, and they can optimise resource use, minimise waste, and promote the regeneration and reuse of materials and resources. In this way, remediation activities effectively embed the operating principles of the circular economy.

Wider values refer to the economic, social, and environmental impacts resulting from BRR that are not captured in traditional financial analysis. These include for instance public health improvements, pollution reduction, ecosystem restoration, job creation, and increased property values. Recognising and accounting for wider economic values in economic assessments is crucial for showcasing the broader impacts of BRR and making a stronger case for investment.

Low input remediation techniques describe a "family" of techniques which are generally considered to need lower inputs of energy and materials and also offer wider benefits than conventional remediation techniques, including the capacity to generate renewables.

QUESTION 1: **How far is SRBLM adopted in your country or region?**

QUESTION 2: **What are the main drivers for and barriers to SRBLM adoption in your country or region?**

A circular economy perspective for land remediation

A circular economy for land is a major policy goal in most countries, driven by compelling arguments for **prioritising the reuse of previously developed land over greenfield developments**. For example, the EU seeks a net urban land take of zero by 2050, meaning that any new land use must be offset by restoring or reusing existing sites. Brownfields, which are abandoned or **underutilised sites where previous activities have ceased, represent a significant opportunity for land 'recycling'**. By redeveloping restoring these areas and bringing them back into the cycle of land use, we can reduce the demand for greenfield sites for urban development taken from agriculture or habitat. Moreover, demand for land is increasing for the production of renewable energy and bio-resources. Brownfield land is also an important opportunity for the diversion of some this landtake from agriculture.

Across Europe a large amount of excavated soil is currently disposed of during site remediation and regeneration which represents an irreversible loss of what is essentially a non-renewable resource. Re-use of excavated soil reduces construction and demolition waste volumes that require disposal and avoids the extraction of non-reneable virgin resources, which also preserves usable land surface and coastal resources.

While remediation activities traditionally focus on the removal and treatment of contaminants to restore sites to a "pre-contaminated" state, **adopting sustainable and circular approaches offer new opportunities for optimising resource use within the processes of remediation themselves**. Examples include the use of renewable energy and materials within remediation (such as cheese whey for in situ dehalorespiration), but also the generation of resources by the remediation process (such as biofeedstocks from phytoremediation).

ISLANDR provides a **"triple helix" of circular economy support** (Figure 3):

- ISLANDR has carried out an analysis of European policy blockers to achieving circular re-use of **land**, **soil** and **remediation related resources**, for example in waste policy, and will make a series of recommendations of how these barriers might be addressed, whilst still maintaining effective environmental protections.
- ISLANDR is surveying and making recommendations for the management of excavated soil across Europe, learning lessons from pioneering systems in several countries to make recommendations for systems that might be deployed more widely.
- ISLANDR is developing circularity assessment for remediation technologies to evaluate circularity in the context of contaminated sites remediation. This approach supports the monitoring of the resources and energy consumed and generated by the remediation processes. Circularity assessment is well-suited to highlight the benefits of low input remediation alternatives, such as phytoremediation, which offer unique opportunities as they are relatively frugal in their use of resources and energy and provide biomass which can be used for energy or bio feedstock.

Figure 3: ISLANDR "triple helix" of circular economy support for contaminated sites management

QUESTION 3: How might you use circularity assessment?

QUESTION 4: What are the main drivers for and barriers to the adoption of circularity assessment in your country or region?

The potential for low input remediation techniques

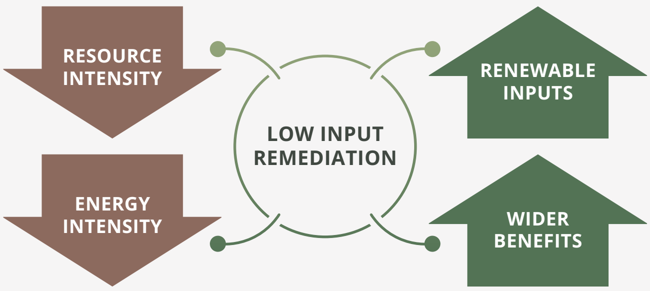

Figure 4: Low input remediation

Low input remediation techniques (LIRT), see Figure 4, can reduce the use of non-renewable resources and fossil carbon energy, therefore contributing to a sustainable remediation approach. These low demands may result from inputs supplied by natural processes like photosynthesis or the use of renewable energy (e.g., photovoltaic systems) and renewable resources (e.g., biochar). Moreover, they may **generate a range of wider benefits**, for example the improvement / maintenance of soil health to support non-built re-uses of land or the generation of exploitable bioresources. Some example techniques are listed in Table 1. A key work focus for ISLANDR is the identification of benefits of LIRT along with the possible obstacles to their deployment. Some initial examples are given in Table 2. These benefits can extend the range of practical results a brownfield restoration can deliver and hence its wider value.

• In situ stabilisation • In situ bioremediation • MNA and NSZD • Electrokinetics & renewables • Phytoextraction • Rhizofiltration (wetlands) • Phytovolatilisation • Phytoexclusion	• Phytostabilisation • Phytocontainment • Enhanced phytoremediation • Phytodegradation • Mycodegradation • Permeable reactive barriers • Bioelectrochemical remediation

Table 1: Examples of low input remediation techniques

BENEFITS	OBSTACLES
Lower inputs of energy and materials needs and costs	Lack of performances benchmark vs. conventional remediation
Support the preservation of soil functionality (fertility, soil structure)	Perceived with different risk management performance (eg: significant time to remove a source term)
Improve surface and groundwater quality (more efficient use and recovery of the water resource)	Lack of awareness and literacy, which creates uncertainty in their deployment
Flood management (retaining runoff, storing surface water, mitigating floods), support water rehabilitation (rain and drainage water management) and enabling the treatment/reuse of contaminated leachate and drainage (landfill leachate and acid mine drainage)	Wider benefits related to soil health or the creation of renewables or landscape improvement not accounted for in the development site management and financial plans
Contribute to green infrastructure (ecosystem services for habitat and biodiversity protection) Enhance local environment by improving urban soundscapes, air quality, reducing visual intrusion, and mitigating the urban heat island effect	Remediation options appraisal often taking place towards the end of a site management decision pathway. By this stage, many of their advantages no longer exist
Mitigation of human induced climate change (renewable energy generation and renewable material generation) and greenhouse gas mitigation through reduced GHG emissions and carbon sequestration	Remediation and the redevelopment of a site often considered in a disjointed way are missed opportunities (e.g. low input remediation technique such as providing a parallel sustainable urban drainage system)
Socio-economic benefits: open spaces, leisure, education, improved health and well-being, access to footpaths and cycle routes, tourism, community centers, scenic viewpoints, and support for built developments and grazing, jobs creation, land and area value	

Table 2: Benefits and obstacles observed in the implementation of LIRT

QUESTION 5: What use is currently made of low input remediation techniques in practical remediation work in your region / country?

QUESTION 6: What do you feel is the usefulness and opportunity for low input remediation, and how can this be better promoted?

Wider values and their use in investment decisions

Brownfield land reflects a failure to achieve a circular economy for land use, and are often contaminated. Brownfields are remediated, restored /redeveloped, or simply just "managed", either when there is a regulatory demand to do so, or there is an economic interest. Regulatory demand primarily arises from unacceptable risks to human health and, in the light of the Water Framework Directive, to water resources. By far the dominant **driver for brownfield remediation and redevelopment (BRR) is economic interest, and where the driver is a regulatory demand, risk management activities tend to be the minimum necessary to achieve compliance**.

Where there are **strong economic benefits**, for example from profitable built redevelopment, BRR is strongly enabled by market forces. Such sites have been termed **"Type A" by the EU CABERNET project**. Where the economic benefits of BRR are marginal, **"Type B", public investment** - often within a public private partnership (PPP) - is used to leverage the brownfield re-use. The public funding case is typically made based on the importance of the restoration to policy triggers, such as environmental objectives or job creation, used to justify public funding. For many brownfields, often those sited in **remote areas or economically disadvantaged localities**, the economic challenge is such that, aside from immediate risk management requirements, the sites are left stalled. These sites have been termed **"Type C"** and represent a loss of land area from the circular economy.

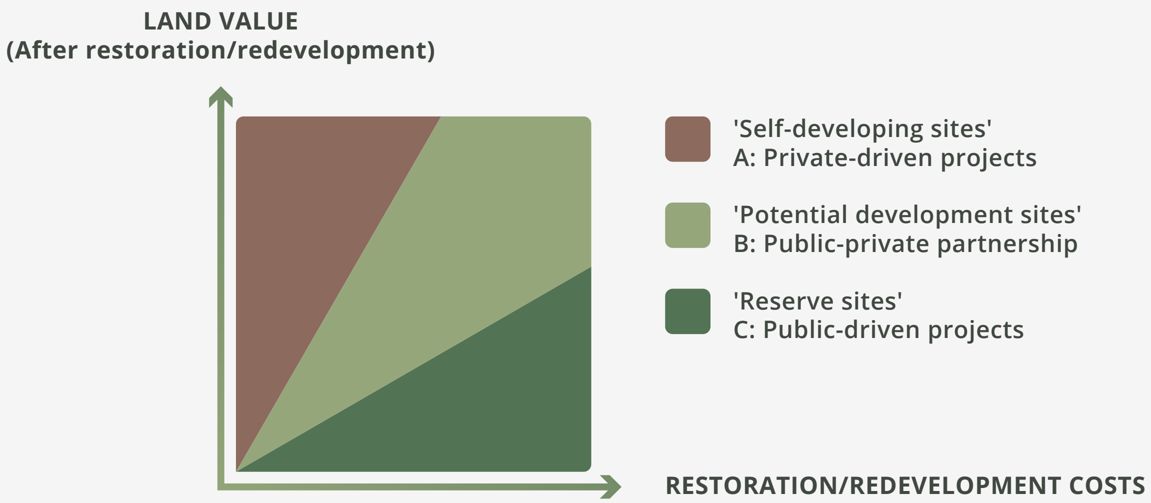

Figure 5: The CABERNET ABC model (slightly adapted)

Investment decisions for a prospective BRR project are often based on a narrow financial analysis that primarily considers the **direct economic returns for investors** to determine whether a project is financially viable. However, these returns can extend far beyond immediate financial gains and encompass a broad spectrum of "wider values" as (positive and negative) environmental, social and economic impacts on society. **From an economic perspective, some of these values can be accounted for in an economic analysis as monetisable "externalities"**. Economic valuation is however, based on an anthropocentric, utilitarian ethical perspective (i.e., concerned with the consequences of actions on human well-being) and cannot, therefore, account for all wider values in society, such as those based on a duty-based or eco-centric ethical perspective.

The scale and type of impacts vary significantly depending on the end land use of the brownfield site, whether residential, commercial, recreational, or green space. New opportunities to provide additional services at a site, for example, from renewable energy, watershed management, improving soil functionality and offsetting (such as for carbon or biodiversity gain), can **enable value stacking during site regeneration where multiple benefits are delivered simultaneously**. Moreover, increasing recognition of the wider value of social benefits, such as from public amenity and well-being, **creating "liveable" urban realms, flood risk management, and mitigating urban climate change challenges, are adding value for investors** in Type A and Type B sites, as well as Type C sites, pushing interest in expanded value propositions and a strengthened economic case for investment in BRR projects.

Despite the recognised importance of the wider values of BRR in recent decades, there is no **consensus or standardised methodology for integrating them into decision-making frameworks**. Maximising positive impacts from BRR requires integrating wider value and sustainability considerations early in project planning, such as aligning remediation strategies with future land uses. ISLANDR seeks to develop a **"checklist" approach**, partly based on work by the previous EU HOMBRE project, for site actors to understand the range of potential services that can be provided by brownfield restoration. ISLANDR also aims to improve the understanding and methods for **quantifying and accounting for the externalities that can be included in an economic analysis, such as cost-benefit analysis (CBA)**, and provide a practical method for quantifying and integrating environmental, social and economic impacts in decision-making for BRR projects.

An important part is to understand how the **costs and benefits are distributed among actors in society: who pays and who gains?** Often, the societal benefits of BRR (e.g., improved public health and environmental quality) accrue to parties other than those funding the remediation. A more equitable and compelling investment case can be made by making these externalities visible, potentially attracting public funding and **expanding the pool of stakeholders interested in investing in BRR** (Figure 1). ISLANDR aims to better clarify the range of potential benefits relevant for different groups of investors or funders to expand the value proposition, incentivise investment, and enable development of more robust business models for BRR projects. This approach can support more sustainable investment decisions, **build a stronger economic case for BRR**, attract diverse funding sources, and foster projects that unlock the full potential of brownfield sites, delivering long-term value to society. These tools and the checklist may find immediate application in **supporting long term planning for the "Living Labs" being supported by the Horizon Europe Soil Mission**.

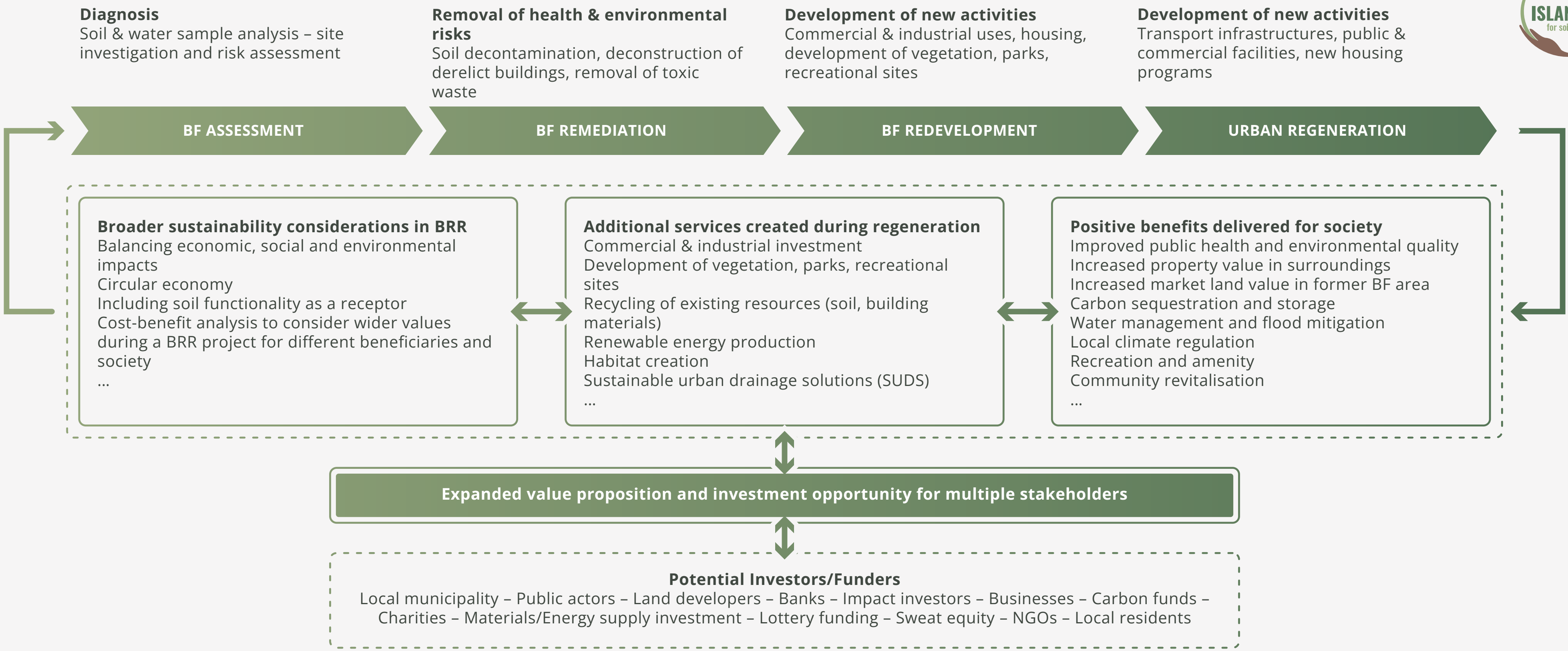

Figure 6: Identifying and including wider values in an (iterative) decision-making process of brownfield (BF) remediation and redevelopment (BRR) – the ISLANDR approach.

QUESTION 7: What do you feel are the drivers most likely to lead to contaminated site/brownfield restoration/redevelopment in your professional experience? – Please can you add a few words to describe your background.

QUESTION 8: What do you think are the most important additional services or values that could trigger restoration/redevelopment for sites currently considered "uneconomic" to re-use?

The importance of soil health for site management

There are two (interconnected) contexts in which soil health needs to be considered in contaminated site remediation:

- **Looking at soil health as a "receptor" in the context of managing risks from contamination.**
- **The impacts (positive or negative) of the remediation process itself on soil health.**

The triggers for considering soil health has tended to relate to the needs for soil functionality in the envisaged use of the site. Remediation techniques can have significant negative impacts on soil functionality, leading to degradation of soil constituents. However, increasingly the intrinsic value of soil ecosystem services to society as a whole is driving soil health policy in Europe, and the direction of travel in Europe is towards securing widescale improvement in soil health, for example, to preserve and extend soil carbon stocks. Low-impact remediation, such as nature-based solutions utilising plants, bacteria, fungi, and soil amendments, can improve soil health. Soil health is crucial for achieving multiple societal goals such as climate neutrality, a clean and circular economy, and preventing land degradation. **Healthy soils are essential for reversing biodiversity loss, providing healthy food, and safeguarding human health**. Hence, the concept of soil health is fundamental to the European Soil Mission and the proposed Soil Directive.

Soil health is determined by the **biological, chemical, and physical properties** that enable soil to **function as a vital living system**. These properties support various soil functions, including carbon storage, nutrient supply, water retention, habitat for biodiversity, pollutant retention, and physical stability. These functions contribute significantly to **broader ecosystem services** such as air quality, climate regulation, and soil formation. **Soil** functions are driven by interactions between **biotic and abiotic components**, and the delivery of ecosystem services is often depicted through a cascade model. This model illustrates how **biophysical structures and processes support ecosystem functions**, which in turn, generate final services that benefit humans and can be economically valued. Although soils have traditionally been overlooked in ecosystem service classifications, various frameworks have been developed to assess soil-based ecosystem services.

A functional approach to **soil health assessment employs a quantitative, multi-parametric method using soil quality indicators**. These indicators, which describe physical, chemical, or biological characteristics of soil health, act as **proxies for soil properties and processes** linked to key soil functions and ecosystem services. Selecting relevant indicators and interpreting results to **classify soil as 'healthy' remains a challenge**, particularly in the context of contaminated land. However, studies have demonstrated the effectiveness of quantitative soil quality indices in evaluating the impact of remediation techniques such as phytoremediation and soil amendments like biochar.

Indicators of soil health fall into three categories:

- **Physical:** soil erosion rate, water holding capacity, and bulk density, which influence water retention, root penetration, and aeration.
- **Chemical:** pH, nutrient content, organic carbon, electrical conductivity, heavy metals, and contaminants, which provide insight into soil fertility, toxicity, and nutrient availability.
- **Biological:** basal respiration, reflecting biological activity, organic matter content, and nutrient cycling.

Developing a comprehensive method for evaluating soil health involves monitoring soil descriptors to diagnose conditions across different land covers. Defining a minimum dataset of descriptors that best reflects key soil functions is complex, with indicator relevance varying by land cover. This guides sustainable management strategies and determines appropriate parameters for assessing remediation effectiveness.

Integrating such soil health assessments into contaminated land management is essential for better decision-making and prioritising areas for preservation or development. Early **collaboration between planning and remediation experts enables a coordinated approach, aligning remediation with site redevelopment**.

A particular challenge posed by soil health policy goals for contaminated sites management is how to balance a desire for transition to "complete" soil health, with its technical feasibility and its cost to society and the environment. ISLANDR's opinion is that, depending on the nature of the site contamination problem, **soil health recovery should be seen as a long term goal**, which may proceed via a number of interim stages. For example, soil recovery so that it can support landscaping or biomass production may be an appropriate and sustainable strategy, whereas recovery to an extent that supports the production of food crops is not. Moreover, the **targets set for recovery of soil health must also take into account the envisaged use of a site**. For example, the soil functionality needed beneath a car park is vey different to that needed for an urban public park. The consequences of this are:

- The range of remediation approaches available for a car park end use are wider as the soil health demand is less.
- The remediation objectives for the park area need to take account of soil fertility and phytotoxicity, as well as needing to achieve compliance for mitigating risks to human health, groundwater etc, whereas phytotoxicity and soil fertility are not concerns beneath a car park.
- If an aggressive treatment is used for the public park area some form of soil recovery process may be needed, potentially even topsoil importation, which runs counter to circular economy principles and creates sustainability losses such as carbon costs and road traffic.
- If at some point the land use changes and the car park is repurposed as public open space, then soil health requirements will change (as indeed human health risk assessment would change).
- The public park creates an opportunity for wider value from improving soil health, for example related to soil carbon and soil as a habitat, as well as perhaps an opportunity for wider services such as sustainable urban drainage, where soil function also supports filtration.

Hence ISLANDR sees soil health in remediation projects can be mapped into two dimensions, the **"level" of soil health** needed and the **level of decontamination** needed. Figure 5 illustrates this thinking with the public park / car park examples, but also shows how repurposing for continued industrial use, or for the recovery of biofeedstocks can also be mapped.

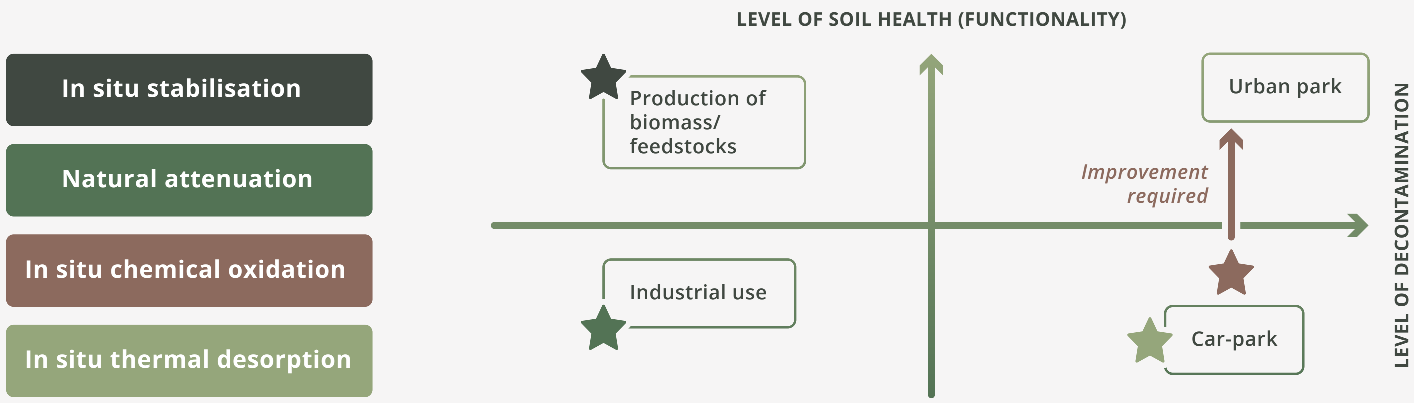

Figure 7: Adapting remediation methods to the level of functionality required for the future land use

The ISLANDR approach to including soil health in decision-making involves **iteratively adding soil health considerations along a site management trajectory** from initial desk study and site investigation to remediation, verification, and post-remediation redevelopment. Steps include identifying soil health indicators according to future use and selecting treatments based on initial and target soil health scenarios. The goal is to **balance soil health requirements for future use with necessary decontamination levels while avoiding further degradation of soil functions**.

QUESTION 9: How important is soil health in your current professional practice? – Please can you add a few words to describe your background.

QUESTION 10: What do you think are the most important soil health considerations that ought to influence contaminated site management decision-making?

Contaminants of Emerging Concern (CECs)

Contaminants of Emerging Concern (CECs) are a subset of anthropogenic compounds that are **poorly characterised in terms of effects and occurrences and largely unregulated, especially in soils**. ISLANDR addresses this by providing a **list of soil CECs, drawn up based on the risk they pose to health and the environment**, to be included in future national and EU regulations. Each CEC is assigned a risk score reflecting its impact on soil quality, people and the environment. This score based on mobility, toxicity, persistence and the likelihood of their appearance in the environment (depending on their industrial emissions) serves as a **tool to guide regulatory efforts** and improve soil health at national and European levels.

In addition, the requirements and R&D needs to address CEC risk management are related to the acquisition of knowledge on the whole chain of expertise of these compounds in the management of polluted sites and soils. This chain includes:

- Their analysis, at least as a group of substances or as individual substances, in soil and water.
- The assessment of their toxicity via different routes of exposure, their impact on the environment, including soil health.
- And finally their regulation according to different regulatory frameworks: production, use, environmental monitoring.

This diversity of needs calls for a structure that allows us to assess whether all the research needs for each CEC are covered at European level, as well as at national level in each of the countries that make up Europe. It also raises the question of when a substance can be removed from the list of CECs when knowledge and regulation are sufficiently mature.

SCIENCE NEEDS

Analysis
Toxicity
Treatment

0%: no data
100%: consistant data

REGULATION NEEDS

Substance production
Substance use
Environmental monitoring

0%: no regulation
100%: regulation in all EU

CEC indicator for R&D needs and requirement:
Low indicator: no data/regulation
High indicator: consistant data/regulation

Figure 8: Identifying requirements and needs to adress CEC risk management.

QUESTION 11: Would CEC groups or substances with a high CEC indicator (data and regulation) that can almost be removed from the CEC list already be addressed by the SRBLM, e.g. PFAS?

QUESTION 12: What modifications to SRBLM might be needed to make it also applicable to other CECs with less data and regulation?

Final questions

QUESTION 13: We invite you to give us any general feedback you have about SRBLM and how ISLANDR seeks to advance its state of practice.

QUESTION 14: ISLANDR will present its SRBLM findings using a roadmap across different stages of site management, as shown in Figure 6. What are your opinions about its importance and relevance?

IDENTIFICATION

One or more suspected areas of land contamination are found.

This may be as a result of:

1. A strategic inventory process based on past site use;

2. Anomalies found during a review of monitoring data;

3. A review of a portfolio of sites for example during divestment, merger or acquisition processes;

4. A site specific trigger such as redevelopment or change of use, or regulatory scrutiny such as a response to community concerns, whistle blowing.

VISION / INITIATIVE

An actor has an idea that the locations could be used for a particular purpose.

The key outcomes of this stage are an initial project champion(s) and initial vision for a site, which may include a range of future uses and not just a single use.

The "vision" may have different levels of detail, ranging simply from an idea and its proponent(s) to a more detailed briefing of the vision and pathway by which it might be reached.

In some cases, the use(s) may be interim which can also support a period of soil health recovery, for example re-use for solar photovoltaic (PV) electricity generation in parallel with a nature based solution. Another form of interim re-use might be linking a long term treatment opportunity (such as phytoremediation) with interim use, for example to provide bio feed stock, natural habitat and social amenity via public access... or all three. Multiple interim use scenarios are possible.

PLANNING

The vision is elaborated to finally arrive at detailed plans for action.

A range of land contamination related activities take place over this phase including:

- Site investigation;
- Risk assessment;
- Risk management planning;
- Remedy selection;
- Remedial design;
- Verification planning.

Followed by:

- Master-planning;
- Investment and business planning;
- Permissions from regulators, planners and other authorities;
- Procurement of service providers;
- Allocations of responsibilities, costs, returns, ownerships, financial risks and liabilities;
- Community and user engagement.

REALISATION

Starts with a Go-No Go decision after the development of the business case. Here, contracts are let and practical delivery activities take place on site.

Specific regulatory permissions are agreed. The endpoint is delivery of the vision foreseen in the master planning.

Remediation activities fall within this phase, in some cases in their entirety including verification (for example an *in situ* chemical oxidation treatment) or in others their establishment (for example a pump and treat system or a phytoremediation).

From the point of view of ISLANDR the realisaton described the delivery of the remediation and its associated activities, for example where development and remediation take place in parallel, such as the solar photovoltaic (PV) generation mentioned in previous phase.

MAINTENANCE

The scope of maintenance depends very much on the site context.

In some cases, where the risk management has been completed the primary maintenance activity might be the institutional control, where the record of site use and its risk management is maintained for a planning authority.

For longer term treatments, such as natural attenuation, containment, phytoremediation there will be ongoing monitoring and verification tasks.

For combined re-use and remediation there may be a variety of business, sustainability information and monitoring collected, for example related to site re-use.

The stage also encompasses stewardship activities, for example related to the gradual improvement of soil health.

Figure 9: Roadmap Phases

Further reading

- Paul Bardos, Lisa Pizzol, Linda Maring, Begoña Arellano Jaimerena Jenny Norrman, Jennifer Hellal, Lorik Haxhiu, Nazaré Couto, Virginie Derycke, Kirsti Loukola-Ruskeeniemi, Timo Tarvainen; Juha Kaija, Joris Crynen, James Baker (2024) Sustainable and risk based land management – a briefing about the current state of practice and suggested future direction of travel ISLANDR Project DL3.1 31 May 2024 DOI: 10.13140/RG.2.2.19656.33283

Your feedback

You can use this link to provide your answers to the questions posed in this consultation paper: feedback form.

Optionally you have the opportunity to provide your contact details for any or all of the following reasons (1) to make your answers attributable, (2) to be able to edit / complete them in the future while the consultation is live, (3) to opt in to messages and news from ISLANDR. We will not share your contact details outside the project without your permission. You can view the ISLANDR privacy notice at the end of the form and on the ISLANDR project website.

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