



**BiodivERsA Research and Innovation Workshop  
April 5<sup>th</sup>, 2017 in Brussels**

**EXECUTIVE SUMMARY**

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## Foreword

On April 5<sup>th</sup>, 2017, BiodivERsA organised a workshop, held in Brussels, dedicated to strengthening the links between research and innovation in the context of the BiodivERsA COFUND Call on « *understanding and managing biodiversity dynamics to improve ecosystem functioning and delivery of ecosystem services in a global change context: the cases of soils and sediments, and land- river and sea-scapes (habitat connectivity, green and blue infrastructures, and naturing cities)* ».

The aims of the workshop were:

- I. Invite identified projects (based upon their relevance to private sector stakeholders) from the 2015-2016 to interact with private sector representatives and present project approaches to stakeholder engagement and communicate expected outcomes that are likely to be of interest to the private sector.
- II. Identify knowledge needs from the private sector that could be addressed through research focusing upon soil biodiversity and green and blue infrastructures, either through the existing funded projects or as part of a scoping exercise to inform future project proposals for BiodivERsA, Horizon2020 or other funding sources.
- III. Identify activities that collaborative working could implement to help bridge the gap between research and innovation.

The workshop attracted over 70 participants, with fairly equal proportions between researchers, stakeholders and BiodivERsA members. The first segment of the day consisted of a plenary session with an introduction by Xavier Le Roux, BiodivERsA Coordinator, followed by a show-case of successful private sector stakeholder engagement by Bruno Fady (INRA) from the previous BiodivERsA projects LinkTree<sup>1</sup> (2008 call) and TipTree<sup>2</sup> (2011-2012 call). This session was concluded by a presentation of current activities and the future plans of the BiodivERsA partnership to linking funded research to the innovation agenda, this was presented by Frédéric Lemaître, BiodivERsA Science-Society Interfacing Officer.

The remainder of the day focused on interactive parallel sessions between BiodivERsA project researchers and private sector stakeholders, sessions were organised around three themes: agriculture, aquaculture and urbanism respectively. Researchers presented the details of their projects, their approaches to engaging stakeholders, and highlighted expected outputs deemed relevant to the private sector. Discussions with participating stakeholders ensued, where they were invited to point out research needs from their company or sector related to the research presented. Key BiodivERsA partners facilitated discussions to steer conversation towards identifying potential for new collaborations and ideas for refining existing, or implementing new, activities being undertaken by the partnership. The overarching objective being to strengthen links between funded research and emerging innovation opportunities and promote the uptake of research results and outputs by the private sector to inform their respective decision making processes. The results of these discussions have been synthesised below.

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<sup>1</sup> LinkTree project: <http://www.biodiversa.org/526>

<sup>2</sup> TipTree project: <http://www.biodiversa.org/526>

## I. Best practices in engaging with private sector stakeholders

Throughout the workshop, a number of key points were raised on the benefits of fostering closer links between the BiodivERsA research and potential knowledge users in the private sector, and practical steps that could be taken to implement this ambition. Main discussions are summarized as follows.

### 1. Interest and added value of collaboration between researchers and private sector stakeholders

#### Access to knowledge

Stakeholders highlighted the main benefit of collaborations with researchers as representing an opportunity to better access knowledge. While it was recognised that the immediate valorisation of research for businesses is not always possible, the potential collaboration between relevant projects and an attending company working on bio-inoculants is good example of how research can lead to the identification new knowledge relevant to businesses. In such a case the participant's interest is to identify new micro-organisms groups of potential interest for his company's activity, with the idea that the latter can then further develop and operationalize this knowledge produced in several BiodivERsA projects working on soil micro-organisms, if relevant results are obtained.

Similarly, stakeholders in the urbanism group identified scope for BiodivERsA's Green and Blue Infrastructure (GBI) knowledge base in tailoring 'well-being' message and making it more relevant to private sector audiences. Identifying and communicating the benefits that GBI brings to people operating in the urban environment can demonstrate how benefits delivered by GBI activities contribute to the general well-being of workforces in urban areas. This knowledge could potentially galvanise collective action from businesses based in urban environmental settings to invest in GBI, that not only provides Nature Based Solutions (NBS) (i.e. climate resilience), but also provides natural areas where staff can interact (improving morale and workforce cohesion), reduce stress levels (reduce sick leave), and attract people to their businesses location due to pleasant natural surroundings (attracting highly skilled workforce and gaining competitive advantage)<sup>3</sup>.

There is also scope to integrate BiodivERsA's biodiversity knowledge with sectors such as the Construction industry, to better integrate biodiversity into infrastructure construction and planning processes. Effective integration of GBI enables organisations to present a positive corporate image and can provide competitive advantage, as strong environmental credentials may improve chances of being granted future development contracts. In addition, natural aesthetics provided by GBI can lead to higher property values. Industry

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<sup>3</sup> The Economic Value of Green Infrastructure (2008)

[http://www.greeninfrastructurenw.co.uk/resources/The\\_Economic\\_Value\\_of\\_Green\\_Infrastructure.pdf](http://www.greeninfrastructurenw.co.uk/resources/The_Economic_Value_of_Green_Infrastructure.pdf)

biodiversity interest groups, such as CIRIA<sup>4</sup> in the UK, are an example of entry points for researchers to engage with industry.

### **Improving efficiency and joining voices**

Participants identified that benefits of joint working between research and private sector stakeholders flow both ways. For instance, companies can help link BiodivERsA research projects with other research projects they have collaborated with that are working on similar subject areas. Furthermore, the urbanism expert group discussed the need for greater stakeholder engagement at a broader level (i.e. not just at project level). This would not only improve societal relevance of BiodivERsA research, it could also lead to collective stakeholder analysis and identification. For example, practitioners working in industry are better placed to identify parties within their sector who could benefit from BiodivERsA research outputs and are in a good position to guide BiodivERsA stakeholder engagement from a private sector perspective.

In addition, engaging with the private sector can aid researchers in accessing new study sites and shape data collection activities to improve applicability in decision-making, and accessibility and replicability post-project. For example, the MARFOR<sup>5</sup> project developed common sampling protocols that can be used by seaweed growers companies (mainly growers) if they want to participate in the project and offer to perform sampling on their sites and contribute new data and case-studies to the project. Finally, it was made evident that researchers and private companies can join forces when delivering common messages across different sectors and professional disciplines. This would help add weight to communications in the policy arena, where joint voices can have a stronger impact in influencing policy-makers' decisions.

## **2. Difficulties identified and ways to improve collaborations between researchers and private sector stakeholders**

Beyond the discussions on the added value of collaborations, workshop participants identified barriers and challenges that researchers and business practitioner face when working collaboratively. The main points of discussion are summarised below:

### **Mismatches in scales of time and space**

There was general appreciation that stakeholders and researchers tend to work on different time and spatial scales. In terms of timescales, private companies can relatively quickly adapt their agenda depending on new opportunities. Conversely, it can be more challenging for researchers to redefine research objective, based upon new and emerging stakeholder needs, mid-way through the project cycle.

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<sup>4</sup> Construction Industry Research and Information Association (CIRIA) Biodiversity Interest Group. [http://www.ciria.org/Research/Projects\\_underway2/Biodiversity\\_interest\\_group.aspx](http://www.ciria.org/Research/Projects_underway2/Biodiversity_interest_group.aspx)

<sup>5</sup> MARFOR project: <http://www.biodiversa.org/1019>

Time-lags between interventions and the emergence of intended benefits can pose a challenge to researchers trying to demonstrate beneficial impacts of their research. This is especially pertinent to natural sciences, where ecosystem change is often incremental and operates over long time periods. It was suggested that demonstrating a wider suite of net-positive changes (i.e. behavioural changes in sustainable management), beyond environmental improvements, could provide a useful demonstration of the ongoing, and often long-term, benefit realisation process associated with the application of scientific research in delivering 'real world' solutions. Projects could consider measuring the level of behavioural or societal change that has been driven by research outcomes. Projects could also consider making quantifiable predictions, or even model, the expected increase in benefits or value creation that could be realised if research outputs are used to inform sustainable ecosystem management.

Furthermore, when considering communication and promoting the uptake of project outputs (i.e. knowledge, data and tools), project teams should consider the varying spatial scales that different end-users may consider applying outputs to support decision making. For example, whilst an individual project may focus attention at a relatively local scale (i.e. site level), outputs may also be applicable to addressing challenges at a regional, national or international scale, or could be applied to a different type of ecological feature. Demonstrating the potential agility of outputs to different end users may initiate wider uptake of research outputs to inform decision-making beyond the original foci of the project.

### **Measuring impact and developing Key Performance Indicators**

Private sector stakeholders demonstrated interest in understanding how positive change from BiodivERsA projects was measured and quantified. Whilst it is important to note that net-positive changes in natural systems may take time to become evident and quantifiable, as discussed in the previous paragraphs, providing some indication as to whether resulting interventions could be deemed as 'successful' is seen as a critical element for securing private sector trust in operationalising scientific-based approaches. It was recognised that the research community may be prone to over complicating this type of impact monitoring. The private sector advocated for more simplistic metrics to demonstrate the validity of approaches in delivering environmental benefits and enhancing biodiversity.

BiodivERsA research has the potential to provide a valuable and trusted knowledge base from which environmental parameters (i.e. tipping points, ecosystem service delivery potential) and factors (i.e. critical ecological components) can be identified and (potentially) quantified. This knowledge could prove useful in developing Key Performance Indicators (KPI) for use by the private sector in monitoring and evaluating the state of the environment and the effectiveness of their interventions designed to protect and enhance natural systems. Some debate remains as to whether these types of metrics should be all encompassing (i.e. applicable across sectors) or more specific (i.e. attuned to particular organisations or sectors). Issues remain regarding the complexity of this type of activity. A pragmatic approach to meeting this challenge, could be to use biodiversity knowledge to prioritise actions, such as identifying systems at a critical level of degradation or demonstrating the value of natural systems to individual businesses (and the wider economy) through the lens of ecosystem services and the associated risks and dependencies

these services present to business. Standards and indicators were attractive to private sector stakeholders, as KPIs offer a means for businesses to report on progress, demonstrate return on investment in sustainable ecosystem management, and benchmark performance against other organisations and competitors. Further down the line, there may be scope to develop incentive schemes, based upon good biodiversity performance (see section 1.3 on proposed activities for BiodivERsA).

Finally, throughout the workshop there was significant discussion concerning better understanding of the barriers to implementation and uptake of scientific knowledge; including barriers or opposition to behaviour change. It could prove beneficial for BiodivERsA project teams to consider these barriers during project planning, implementation and delivery, whilst there could also be a central role for BiodivERsA to play in realising this potential (see section 1.3 on proposed activities for BiodivERsA).

### **From knowledge production to application**

Throughout the discussions, several stakeholders pointed out how it is often difficult for non-technical practitioners to understand how knowledge produced in natural sciences projects can inform the development of their activities, despite a strong interest for the given topic or concept. This was notably the case for the concept of Nature-based Solutions, which raises interest among private sector stakeholders, yet remains circumspect as to how knowledge produced by NBS research can be applied in the context of their activities.

In terms of using scientific knowledge in economically driven decision making, it was recognised that levels of acceptable risk and uncertainty differed between stakeholder groups. Academic researchers tend to adopt a risk averse stance when applying their knowledge to operational decision making; for a variety of personal and professional reasons. Conversely, industry is often willing to make decisions despite a paucity of information, or in the face of uncertainty about projected outcomes. The research community should attempt to be less risk averse and show more confidence in presenting how knowledge can underpin tangible action, whilst clearly communicating associated levels of uncertainty. There is a potential role for BiodivERsA to look at how risk and uncertainty can be communicated, helping improve stakeholder and researcher confidence in the use of biodiversity research results in decision making.

### **Mismatches in priorities**

It was generally accepted that parties from the commercial and academic spheres rarely work in unison and often have varying interests and priorities. From researchers' perspective, when a topic studied is not relatively high in the agenda of the stakeholders, or when the challenges and opportunities related to the topic are not well known by the stakeholders, they found it can prove difficult to raise stakeholders' interest and involve them in the project. Whilst it should be noted that both professions should take responsibility for improving inter-disciplinary working, BiodivERsA could show strong leadership by providing guidance to the research community on how to engage with private sector stakeholders (see section 1.3 on proposed activities for BiodivERsA).

## Intellectual property

The issue of intellectual property rights was raised in the case of collaborations with the private sector. There was a concern linked to the fear of not being able to publish and communicate widely on interesting results in the case of such collaborations, which can be seen as a drawback for researchers looking to establish inter-disciplinary collaborations, as well as publish findings in academic literature.

## II. Activities proposed for BiodivERsA to address barriers to collaboration and further promote links between research and innovation

During workshop discussions, a number of participants voiced proposals for activities that BiodivERsA could implement to strengthen the link between the research it funds and innovation in the private sector. These activities are described in the following sections and correspond to identified challenges and approaches to improve collaboration between research and private sector stakeholders that are presented in the previous section of this paper.

### Access to knowledge

Whilst access to knowledge was recognised as a key incentive for businesses to engage in academic research projects, there was overall agreement that it could prove useful to produce a '*lessons learned*' document, collating results of BiodivERsA research calls to make these accessible beyond stakeholders who are currently engaged with BiodivERsA. Private sector representatives noted it was often unclear what projects are trying to achieve and what the long-term expected benefits would be; mainly due to the technical nature and academic presentation of the research. A more generalised '*lessons learned*' product could prove a powerful engagement tool used to attract a broader set of stakeholders to engage with BiodivERsA. Research results should be framed in a manner that enables non-biodiversity experts to gain clear insight into BiodivERsA activities and help them to recognise the relevance and value of the research to them and their organisation.

In a similar discussion, the use of 'story-telling' was highlighted as a useful engagement tool. The presentation of scientific research is often shrouded in technical jargon and academic language. Private sector stakeholders noted that presenting research in the form of a 'story' would enable non-technical audiences to better understand the rationale, process, outcomes, value, and benefits of BiodivERsA research. This presents an interesting challenge for BiodivERsA, the Partnership could consider the value of 're-packaging' past and current research in a manner that walks non-technical audiences through the process and reasoning that the biodiversity research community adopts when scoping, planning and delivering high



quality scientific knowledge. This would not only be useful for private businesses, but a broad range of stakeholders. BiodivERsA could prove instrumental in initiating 'Biodiversity Advertising' across Europe, and beyond.

Finally, the urbanism group noted the importance of 'tangible products'. The Stakeholder Engagement Handbook was held up as an example of the type of product that is invaluable for raising the profile of BiodivERsA. There was general agreement that more tangible products would be valued, suggestions included: European manual for implementing green and blue infrastructure; methods for mainstreaming biodiversity into wider European policy and practice agendas; and a manual for researchers on how to communicate more effectively with private sector stakeholders.

### **Improving efficiency and joining voices**

The International Federation of Landscape Architects (IFLA Europe) identified a potentially valuable entry point for BiodivERsA to mainstream biodiversity knowledge into operations. IFLA ensure that, as a tendering agent, their corporate guidelines stipulate how a project must be undertaken; including data management and sustainability considerations. Focusing engagement efforts towards large European tendering agents would enable biodiversity knowledge to be mainstreamed into the contract award processes and associated operational guidelines. If successful, it could provide an efficient way of mainstreaming biodiversity into cross-sectorial practice, as opposed to targeting individual companies. One potential action could be for BiodivERsA to compile evidence of best practices, which tendering agents could consider for inclusion in their contractual arrangements.

Sharing of best practice is consistently deemed a highly valuable endeavour, and this was echoed in wider discussions. The critical decision for BiodivERsA is deciding how to share best practice to ensure maximum visibility to the broadest range of relevant stakeholders. Suggestions table included: framing the case for biodiversity conservation through the lens of '*quality of life improvements*'; aggregating existing knowledge to inform a common approach to mainstreaming biodiversity; build on existing activities (both within and outside of BiodivERsA) that demonstrate 'nature's value' in decision making.

Finally, there was suggestion that BiodivERsA could consider play a leading role in helping to identify and link up BiodivERsA research projects and other research projects (funded under Horizon2020 or other ERA-Nets) working on similar topics.

### **Measuring impact and developing Key Performance Indicators**

As mentioned in the previous section on the challenges of collaboration, it was largely recognised that BiodivERsA research has the potential to provide a valuable and trusted knowledge base from which environmental and factors can be identified and (potentially) quantified, and that this knowledge could prove useful in developing KPI for use by the private sector in monitoring and evaluating the state of the environment and the effectiveness of their interventions designed to protect and enhance natural systems. Further down the line, there may be scope to develop incentive schemes, based upon good



biodiversity performance, and it was stated that incentives are an important hook for drawing in private sector stakeholders, and could initiate a ‘snowballing’ effect and attract other businesses to engage. For example, there could be a ‘BiodivERsA Business and Biodiversity Award’ that is given to an industry partner that has shown exceptional leadership in mainstreaming biodiversity. Businesses respond well to competition, and this type of incentive could prove an interesting hook to pique business interest, while offering an opportunity for rewarded businesses to showcase their engagement and achievements.

In addition, the BiodivERsA Partners may wish to investigate where past project outputs have been used in decision-making and delivered net-positive impact for biodiversity and the economy. Conversely, the Partners could ascertain which outputs have not had widespread uptake, using this as a basis to improve understanding of this challenge.

### **From knowledge production to application**

Many private sector stakeholders stated that early engagement with industry, even as early as developing themes for calls and co-development of projects, would be welcomed. This could help ensure long-term buy-in from industry. A balance would need to be struck between the applied element of research and the novel innovation that attracts academic researchers. BiodivERsA could prove to be an effective platform from which to initiate this style of working. It is important to note that industry recognises the high value of ‘pure’ research for informing innovation, but they are unlikely to engage directly with these projects if there was no discernible practical application, or did not meet their requirements.

Discussions recognised the value of having key individuals tasked with driving activities required to enable research projects to interface with the application processes adopted by the private sector, which research outputs could potentially feed into. BiodivERsA could help develop a fellowship programme and provide a financial support to students seeking to work on collaborative research projects with other researchers and/or private businesses. For example, Aquabiotech<sup>6</sup> has an internship programme with placements lasting for six months. However, it is recognised that a longer time frame would be needed to deliver concrete results and foster effective collaboration. If BiodivERsA could develop a programme to extend the duration of such fellowships and inter-disciplinary knowledge exchange programmes, there could be a strong opportunity to support the transfer and operationalization of knowledge produced by the research programme towards interested private sector stakeholder, and vice versa.

Private sector stakeholders showed interest in understanding how BiodivERsA could produce guidance for businesses on how biodiversity knowledge can be applied to inform ‘on the ground’ activities, so that organisations can address requirements of European legislation and relevant non-binding targets (i.e. SDGs, Aichi Targets). It would prove valuable if BiodivERsA projects made concrete demonstrations as to how and where research outputs could be applied to ‘real world’ decisions.

As discussed in the section on difficulties, private sector stakeholders raised a point regarding the practical application of NbS. There is a significant amount of interest in the

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<sup>6</sup> Aquabiotech: <https://www.aquabt.com/>

value of adopting NbS by different user groups. BiodivERsA may consider consolidating the existing knowledge base to produce guidance that enables non-technical practitioners to understand how natural sciences can inform NbS development. This guidance could be generalised across sectors, or more tailor made for specific sectors or activities.

### Mismatches in priorities

As mentioned in the previous section, it was generally accepted that parties from the commercial and academic spheres rarely work in unison and often have varying interests and priorities. BiodivERsA could show strong leadership in aligning stakeholder perceptions, by providing guidance to the research community on how to engage with private sector stakeholders. Additionally, guidance could also be produced for industry to help them decipher how biodiversity research can benefit their business. These products could be incorporated into BiodivERsA's existing stakeholder engagement toolset, or be published as a standalone product. Such activities could reinforce BiodivERsA's recognition of the value of ensuring stakeholder engagement and knowledge transfer is a two-way process.

### Intellectual property

A support for the development of patent might be needed. Such patents could be developed either during the BiodivERsA project, or the BiodivERsA project could serve as a first step towards defining new projects that focus on innovation and patent development.

## III. Identified research needs from stakeholders and related projects' undertakings

During the parallel thematic discussions, researchers were invited to present the work they intend to undertake as part of their BiodivERsA project, stakeholders were encouraged to voice knowledge and research needs related to biodiversity research. The synthetic results of these discussions are presented in the tables below. While some groups had very precise discussions in terms of collaborations between specific projects and stakeholders, others concentrated more on the role that BiodivERsA could have in supporting the linkages between research and innovation, as it was the case in the session on urbanism, which fed mostly the first section of this report.

### Session on agriculture

Research need	Projects possibly addressing the research need
<b>Identify Advisory tools</b> , like the Biodiversity Index to assess the environmental benefits of farming. Discussion groups should be organised to :	Yield can be addressed by <b>BIOINVENT</b> , while setting up discussion groups and finding common indicators at different scales can be handled by <b>SOILMAN</b>

<ul style="list-style-type: none"> <li>• reflect on how to get the farmers to discuss the benefits of biodiversity</li> <li>• give a general picture of biodiversity levels between farms</li> <li>• find out common indicators between countries</li> </ul>	
<b>How to maintain effective farm production in buffer strips.</b> The buffer strips need to be incorporated in the farming system. Note: “production” can have different meanings/definitions in different policy contexts	Multiple ways to address the research needs: <ul style="list-style-type: none"> <li>• Finding and summarizing arguments and individual benefits for farmers =&gt; <b>OSCAR</b></li> <li>• Developing different dissemination tools and case studies =&gt; <b>WOODNET</b></li> <li>• Setting up a new definition of "productivity" =&gt; <b>BIOGEA</b></li> </ul>
Understanding the <b>flow of energy between agro-systems</b> (not only amount of organic matter, but also in terms of calories)	BiodivERsA projects cover different gradients in terms of bio-energetics. Flow of energy measured through stable isotope labelling in context of <b>SOILCLIM</b> . Yield could be valorized not only in terms of human benefits but also for the environment – through the <b>BIOINVENT</b> project. Other projects that could contribute in this context are <b>SOILMAN</b> and <b>DIGGING DEEPER</b>
<b>Early warning indicators (for farmers) of loss of soil function</b>	Early warning indicators of loss of soil function through <b>SOILCLIM</b> and <b>BIOINVENT</b> . This research should ideally be developed at EU level and not only at local level.
<b>Research on the effects of inoculants</b> <ul style="list-style-type: none"> <li>• exploitation of microbials for product development</li> <li>• longterm effects of different organic fertilisers on soil diversity</li> </ul>	Land-use oriented projects could provide information on favourable conditions for micro-organisms; other give access to micro-organisms itself that could be used as basis to develop products => <b>URBANMYCOSERVE</b> and <b>SOILMAN</b>
<b>Baseline understanding of soil biodiversity in natural / semi-natural systems</b> for comparison	For cross-comparison between eco-systems, link should be made with the <b>EcoFinders</b> Projects (BiodivERsA projects building on these identification of self-regulatory processes) => <b>BIOINVENT</b> , <b>SOILMAN</b> , <b>DIGGING DEEPER</b> , <b>URBANMYCOSERVE</b> ,

	<b>SOILCLIM</b>
<b>Dispersal capacity and dispersal patterns of indicative species</b>	In order to be a coherent indicator, there's a need for homogenous distribution. => <b>OSCAR, WOODNET</b> . It's very important to look at habitat suitability and not only at species level

### Session on aquaculture

<b>Research needs identified</b>	<b>Stakeholder concerned</b>	<b>Projects possibly addressing the research need</b>
Huge challenges for the industry related to larvae development, as the mortality of larvae is really high for the moment (ca. 95% mortality)	Aquabiotech	Bio-Tide
Better understand questions related to food availability in static system	Aquabiotech	Bio-Tide
Need more information on the impact on populations of an increased nutrient density and possibility to select species to improve nutrient management through multi-trophic aquaculture	Aquabiotech	Bio-Tide
Lack of knowledge on microbial loop and services provided by tidal flats	Bio-Littoral	Bio-Tide
Lack of knowledge on how to collect and grow larvae of Stalked Barnacles	Local fisherman community harvesting stalked barnacle	PERCEBES
More information is needed on the risks related to the introduction of non-native species (risk of biological invasion and introduction of pest, which would have an impact on local diversity and marine forest).	Ocean Rainforest Sp/f Seaweed Energy Solutions SAS  Harvesting companies might also be interested	
Need information on the legal framework under which they can act (e.g. for the breeding programme.)	Ocean Rainforest Sp/f Seaweed Energy Solutions SAS	
Need information on the capacity of a site to support aquaculture on a long term basis (e.g. calculate level of cultivation possible to ensure sustainability of the culture)	Ocean Rainforest Sp/f Seaweed Energy Solutions SAS	
Need for forestry scenarios for aquaculture	Aquabiotech	MARFOR

On the reverse, some projects have also identified research questions they are studying that might be of interest for stakeholders from the private sector:

<b>Research question</b>	<b>Project</b>	<b>Stakeholders targeted</b>
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	concerned	
Will study management scenarios of stalked barnacles cultivation and their impact on biodiversity, productivity and economic value of stalked Barnacle.	PERCEBES	Local fisherman community harvesting stalked barnacle
Use of climate scenarios to predict future dispersion of marine forest and types of species adapted to these changes	MARFOR	Seaweed aquaculture companies could use this information to locate their activity
Need to have more information on the traits that are of importance for seaweed aquaculture companies (e.g. biomass, tolerance to temperatures, etc.)	MARFOR	Seaweed aquaculture companies

This session lead to precise plans for new interactions between projects and stakeholder, for instance between MARFOR and Ocean Rainforest Sp/f & Seaweed Energy Solutions SAS on a range of different issues:

- Ocean Rainforest Sp/f and Seaweed Energy Solutions SAS could provide a new study site to the MARFOR project
- Seaweed Energy Solutions SAS has collaborated with a research project working on the introduction of pest in marine forest. It could thus put in touch the MARFOR project with this other research project working on a similar topic.
- Discussion between the MARFOR project and Ocean Rainforest Sp/f & Seaweed Energy Solutions SAS on the species traits of interest for seaweed aquaculture companies will be engaged, so that MARFOR can take it into account in its research project.

This was also the case between Bio-Tide and Aquabiotech, in particular for discussion on issues related to food availability and nutrient management in tidal flat (cf. research needs identified above).

Finally, a number of additional stakeholders to engage emerged from discussions, for instance other seaweed harvesting companies for the MARFOR project. The creation of a federation of aquaculture companies and harvesters at the European level was also discussed as a key point, as for the moment federation only exist at the national level. This would ease the dissemination of information on best practices for example, or on research results of interest for the sector.

### **Session on urbanism**

The Urbanism session was attended by researchers from BIOVEINS<sup>7</sup>, CROSSLINK<sup>8</sup>, ENABLE<sup>9</sup> and URBANGAIA<sup>10</sup> projects, who presented their work to delegates. Subsequent discussions

<sup>7</sup> BIOVEINS - Connectivity of green and blue infrastructures: living veins for biodiverse and healthy cities (<http://www.biodiversa.org/1012>)

<sup>8</sup> CROSSLINK - Understanding cross-habitat linkages between blue and green infrastructure to optimize management of biodiversity, ecosystem services and multiple human uses (<http://www.biodiversa.org/1013>)

<sup>9</sup> ENABLE - Enabling Green and Blue Infrastructure Potential in Complex Social-Ecological Regions: A System Approach for Assessing Local Solutions (<http://www.biodiversa.org/1014>)

<sup>10</sup> URBANGAIA - Managing urban Biodiversity and Green Infrastructure to increase city resilience? (<http://www.biodiversa.org/1025>)

focused mainly on practical steps that BiodivERsA could take to engage business more generally, as opposed to linking engagement opportunities to specific research project.

Research need	How to address the need within/beyond BiodivERsA projects
<b>Tangible products designed to connect commercial and academic spheres.</b>	<p>It was noted tangible products are critical for BiodivERsA to increase visibility to businesses. Suggestions included:</p> <ul style="list-style-type: none"> <li>• Guidance for the research community on engaging private sector stakeholders</li> <li>• Guidance to industry to help decipher how research is relevant to their business.</li> <li>• European manual for implementing green and blue infrastructure.</li> <li>• Methods for mainstreaming biodiversity into European policy and practice agendas.</li> <li>• Produce a '<i>lessons learned</i>' document, to enable non-scientific experts to ascertain how BiodivERsA research is relevant to their organisation</li> </ul>
<b>Communicating best practice to business.</b>	<p>Potential options include:</p> <ul style="list-style-type: none"> <li>• Framing biodiversity conservation through the lens of '<i>quality of life improvements</i>'.</li> <li>• Aggregating existing knowledge to inform a common approach to mainstreaming biodiversity.</li> <li>• Demonstrate 'nature's value' in corporate decision making.</li> </ul>
<b>Demonstrate transferability of research outputs.</b>	<p>BiodivERsA could demonstrate the potential agility and transferability of outputs (i.e. tools and management approaches) to different geographical locations, or focal ecosystems. This could improve uptake of research outputs by private sector stakeholders seeking to make informed decisions in other locations beyond the original foci of a project.</p>

<p><b>Quantify the advantages</b> of adopting science-based innovation to the economy and the market.</p>	<p>Need to provide concrete case-studies that demonstrate benefit for the private sector to engage with scientific-based applications. For example, Except Integrated Sustainability have designed a building at Schiphol Airport<sup>11</sup> that yields benefits for biodiversity, people and is economically efficient. This is pioneer project and there is little data supporting this type of intervention. The lack of data quantifying the benefits of this type of approach present a barrier to the uptake of these solutions.</p>
<p><b>Cross-sectoral mainstreaming business and biodiversity engagement</b> beyond existing 'pioneers' by informing tender process criteria.</p>	<p>This could be addressed through tendering agencies, which would need tools to help them tailor tender specifications before they are put out to call. The question that needs answering is, what are the data, tools, and indicators required to improve sustainability of approaches set out by tender agencies? BiodivERsA could compile evidence of best practice, which tendering agents could use to guide the drafting of contractual arrangements.</p>
<p><b>Help business deliver global targets.</b></p>	<p>Produce guidance for businesses on how biodiversity knowledge can enable organisations to implement activities that address requirements of European legislation and relevant non-binding targets through (i.e. SDGs, Aichi Targets).</p>
<p><b>Demonstrating positive change</b> brought about by BiodivERsA research.</p>	<p>Providing indication of 'success' is critical for building private sector trust in piloting particular approaches. BiodivERsA may consider developing simple metrics to demonstrate the validity of applying science decision making. Demonstrating net-positive change is challenging, due to time-lags associated with ecosystem change. BiodivERsA projects could consider measuring other outcomes to demonstrate research impact (i.e. behavioural change).</p>

<sup>11</sup> Except Integrated Sustainability – Schiphol office innovation project <http://www.except.nl/en/projects/556-schiphol-office-innovation>



<b>BiodivERsA research used to inform corporate disclosure.</b>	BiodivERsA research has the potential to provide a valuable knowledge that could inform Key Performance Indicators used by business for monitoring and evaluating the state of the environment and the effectiveness of their interventions.
<b>BiodivERsA business and biodiversity incentive schemes.</b>	Develop a 'BiodivERsA Business and Biodiversity Award' awarded to industry partners that show exceptional leadership in mainstreaming biodiversity. Businesses thrive on competition, and could pique business interest in engaging.
<b>Using 'story-telling' as a business engagement tool.</b>	Private sector stakeholders noted the value of presenting research in the form of a 'story', to engage non-technical audiences. BiodivERsA could consider the value of 're-packaging' past research in a manner that walks non-technical audiences through the process and reasoning behind commissioning biodiversity research - BiodivERsA 'Biodiversity Advertising'.
<b>Inclusion of personal gardens in infrastructure connectivity work</b> could be interesting, as these are a significant component of the land contractors market.	This is a specific need and could be addressed in some research projects. However, there are some issues related to scale and required methodologies. There is also a lack of data layers that have mapped private gardens in sufficient detail.

## Follow up

The follow up on the discussions and points raised during this workshop will be twofold, at the project-level and at the level of BiodivERsA.

In terms of follow up at the project-level, related to the contacts and collaborations initiated by the projects and stakeholders, BiodivERsA will follow up by considering how the various ideas generated during this workshop could be implemented, and will monitor potential outcomes from such collaborations within the research projects that have been funded.

The proposals put forward by workshop participants, will be presented to the wider BiodivERsA partnership who will discuss their potential added value, impact and feasibility (both in terms of capacity and resources). A number of activities suggested during the workshop could be included to enhance forthcoming planned BiodivERsA activities, such as providing guidance to researchers on how to effectively engage private stakeholders in research projects; which could form part of the BiodivERsA Stakeholder Engagement Handbook's update.

The development of a mobility scheme or fellowship programme also shows potential. These could enable key resource persons to work jointly between projects and a private sector partner. This could be explored as part of current plans to develop a science-business mobility scheme. Equally, current BiodivERsA activities on supporting the uptake of relevant research outputs in knowledge and technology transfer organisations would assist researchers in taking the next steps towards the preparation of demonstration projects or the development of patents (where relevant).

Some other suggestions of activities made by participants would be the object of new activities to be implemented by BiodivERsA, for instance on the preparation of guidance for businesses on how to use information produced by biodiversity research. BiodivERsA research programmes could also underpin the development of incentive schemes (such as industry awards) designed to raise the profile of biodiversity in an industry's context and attract new interest in engaging with science-based business sustainability solutions.

Finally, BiodivERsA intends to capitalise on the momentum created by this workshop and build collaborations with participating organisations. Engaging with bodies such as IFAL or ELCA to discuss how BiodivERsA could build on the knowledge it produces to help mainstreaming biodiversity into their operations, as suggested through the tendering approach mentioned by IFLA, would be an example of strong collaborations that could spur from this workshop. Overall, private sector stakeholders demonstrated a keenness to build on the momentum of the workshop and to begin exploring opportunities for becoming industry stakeholders of the BiodivERsA consortium and be part of a wider partnership, in addition to collaborating directly with research teams.

## Annex 1: workshop agenda



### RESEARCH & INNOVATION WORKSHOP

5 April 2017

BelSPO offices, Brussels

#### SCHEDULE

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5<sup>th</sup> April 2017

10:00-17:00 **BiodivERsA research and innovation workshop** @ Belgian Science Policy Office (BelSPO)

10:00 Introduction to the meeting by Dr. Xavier Le Roux, BiodivERsA Coordinator

10:20 Presentation by Dr. Bruno Fady, INRA researcher, LinkTree and TipTree project investigator (BiodivERsA 2008 and 2012 calls): feedback on engaging and working with stakeholders in BiodivERsA research projects

10:40 Presentation by Frédéric Lemaitre, BiodivERsA interfacing officer: linking research and innovation in BiodivERsA, approach and opportunities

11:00 *Coffee break*

11:30 Parallel sessions: introduction by the facilitators

11:40 Parallel sessions: projects' presentations

12:30 *Lunch*

13:30 Parallel sessions: roundtable discussions

15:00 *Coffee break*

15:30 Feedbacks on parallel sessions and wrap-up

16:00 Opportunities for one-to-one meetings

17:00 *End of meeting*

## Annex 2: participant list

Name	Organisation	Country
Erik Andersson	Stockholm ResilienceCentre, Stockholm University	Sweden
Johannes Anschober	Green4Cities	Austria
Laura Armengot	IFOAM Organics Tech. Inno. Platform / FiBL (Research Institute of Organic Agriculture)	Switzerland
Estelle Balian	Federal Public Planning Service Science Policy (BelSPO)	Belgium
Anne-Laure Barillé	BIO-LITTORAL (SARL)	FRANCE
Jacques Baudry	INRA National Institute for Agronomic Research	France
Klaus Birkhofer	Brandenburg University of Technology	Germany
Claire Blery	Foundation for Research on Biodiversity (FRB)	France
Tom Bosschaert	Except Integrated Sustainability - Urban Renaissance	The Netherlands
Willemine Brinkman	European Innovation Platform on Agriculture (EIP-AGRI)	Netherlands
Maxime Coupremagne	Federal Public Planning Service Science Policy (BelSPO)	Belgium
Oliver Dilly	DLR Project Management Agency	Germany
Hervé Dupré de Boulois	DCM (Group de Ceuster)	Belgium
Hilde Eggermont	Federal Public Planning Service Science Policy (BelSPO)	Belgium
Bruno Fady	INRA	France
Estrella Fernandez García	Ministerio de Economía, Industria y Competitividad (MEIC)	SPAIN
Urd G. Bak	Ocean Rainforest Sp/f	Faroe Islands (Denmark)
Sophie Germann	Agence Nationale de la Recherche (ANR)	France
Kata Gocs	TP Organics	Belgium
Peter Goethals		Belgium
Lise Goudeseune	Federal Public Planning Service Science Policy (BelSPO)	Belgium

Stephen Hawkins	University of Southampton	UK
Yves Heirman	European Land Contractors Association (ELCA)	Belgium
Daniel Hering	University of Duisburg-Essen	Germany
Myriam Hilbert	Foundation for Research on Biodiversity (FRB)	France
Olivier Honnay	University of Leuven	Belgium
Pierre Huybrechts	Federal Public Planning Service Science Policy (BelSPO)	Belgium
Bruno Jesus	University of Nantes	France
António José Dinis Ferreira	Escola Superior Agrária de Coimbra - Instituto Politécnico de Coimbra	Portugal
Catherine Keena	European Forum for Agricultural and Rural Advisory Services (EUFARAS) / Teagasc	Ireland
Johan Lammerant	Arcadis	BELGIUM
Gareth Lawrence	AquaBioTech Group	Malta
Xavier Le Roux	Foundation for Research on Biodiversity (FRB)	France
Frederic Lemaitre	Foundation for Research on Biodiversity (FRB)	France
José Luis Acuña	University of Oviedo	Spain
Paul Mahony	Oppla / Countryside	UK
Marta Maria Coelho dos	Fundação para a Ciência e a Tecnologia (FCT)	Portugal
Katrina Marsden	adelphi research	Germany
Brendan McKie	Swedish University of Agricultural Sciences	Sweden
Violeta Milkova	National Science Fund of Bulgaria (BNSF)	Bulgarian
Luiza Neves	Seaweed Energy Solutions AS	Norway
Hannah Östergård	The Swedish Env. Protection Agency (SEPA)	Sweden
Zuzana Panisova	Slovak Academy of Sciences (SAS)	Slovakia
Pedro Pinho	CERENA-IST & cE3c-FC of Universidade de Lisboa	Portugal
Benoît Planques	European Biostimulants Industry Council (EBIC) / ITALPOLLINA S.p.A.	France
Philippe Potin	Station Biologique de Roscoff	France
Martin Potthoff	University of Göttingen, Center of biodiversity and sustainable land use	Germany
Frank Rasche	University of Hohenheim	Germany
Gaby Rerig	German Research Foundation (DFG)	Germany
Koen Sabbe	Ghent University	Belgium
Doriane Sanchez-Lebris	ADECAL Technopole	New Caledonia

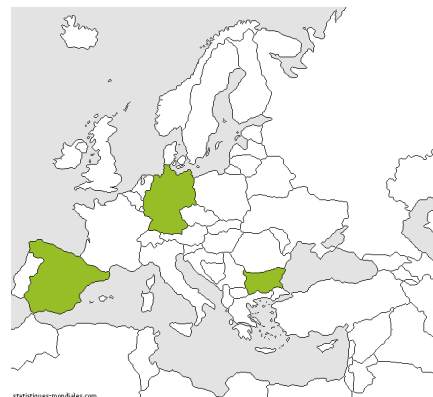
Doris Schnepf	Green4Cities	Austria
Ester Serrao	CCMAR, University of Algarve	Portugal
Matthew Shepherd	Natural England	United Kingdom
Per Sjögren-Gulve	The Swedish Env. Protection Agency (SEPA)	Sweden
Matt Smith	Joint Nature Conservation Committee (JNCC)	United Kingdom
Tord Snäll	Swedish University of Agricultural Sciences (SLU)	Sweden
Mari Soleroed	The Research Council of Norway (RCN)	Norway
Sarah Todd	Agence Nationale de la Recherche (ANR)	France
Katerina Tomkova	Copa Cogeca	Belgium
Myriam Valero	Station Biologique de Roscoff	France
Marcel van der Heijden	Agroscope	Switzerland
Aline van der Werf	Belspo	Belgium
Chantal van Ham	International Union for th Conservation of Nature (IUCN)	Belgium
Gertjan van Hardeveld	Except Integrated Sustainability - Urban Renaissance	The Netherlands
Sofie Vandewoestijne	DG RTD, European Commission	Belgium
Eline Vidts	European Land Contractors Association (ELCA)	Belgium
Marina von Weissenberg	Ministry of the Environment	FINLAND
Vanessa Weck	Regional council of Guadeloupe	Guadeloupe
Tony Williams	International Federation of Landscape Architects - European Region (IFLA Europe)	Republic of Ireland

## Annex 3: Participating projects' descriptions

### PROJECTS IN THE THEMATIC SESSION ON AGRICULTURE

#### **BIOGEA** – Testing BIODiversity Gain of European Agriculture with CAP greening

BIOGEA examines how green and blue infrastructures (GBI) can be better managed through the CAP measures and provide greater benefits. More precisely, it will study how the implementation of greening measures combined with other changes introduced by the latest round of CAP reform are impacting on GBI in a variety of farmed landscapes and in turn how the presence or absence (and spatial arrangement) of GBI affects biodiversity and ecosystem services. On a practical level, it will provide toolkits for farmers and advisors to optimise the placing of greening measures in agricultural landscapes to promote GBI and resulting ecosystem services, both at local and national levels.



#### Study sites:

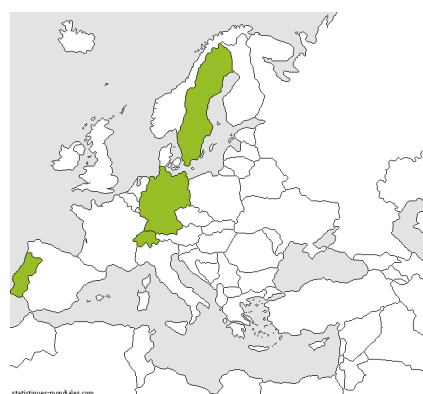
Germany – national level and two studies in South west Germany and Southeast Germany

Spain – national level and two case studies in central Spain and Southwest Spain

Bulgaria – and two case studies in central Bulgaria and central western Bulgaria

#### **BIOINVENT** – Generic bio-inventory of functional soil microbial diversity in permanent grassland ecosystems across management and climate gradients

In BIOINVENT works to advance the understanding of soil microbial diversity and its potential in permanent grassland systems along management (i.e., fertilisation, plant species composition) and agro-ecological gradients across Europe (North-South). This knowledge will be used to develop a novel bio-inventory toolbox to enable the monitoring of the status and trends of below-ground soil microbial diversity and functional properties in European grassland ecosystems at various spatial scales and will allow drawing conclusions on how to manipulate productivity through grassland management. It will also provide the fundamental knowledge needed to extract functional groups of soil organisms for future work linked to the use of bio-fertilizers.

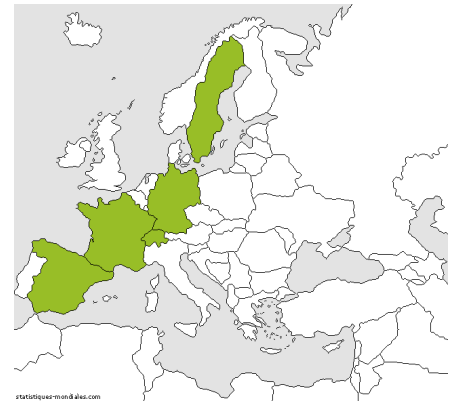


Study sites: Sweden (SE), Germany (DE), Switzerland (CH), Portugal-Mainland (PT-M), Portugal-Azores (PT-A).



## **DIGGING DEEPER** – Agro-ecosystem diversification: digging deeper

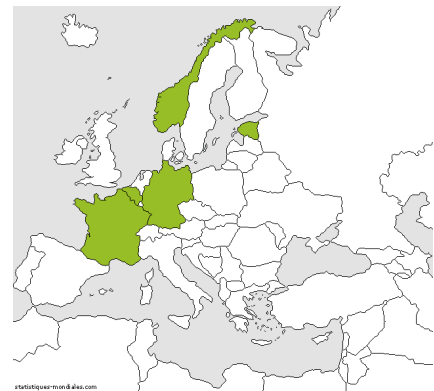
Digging Deeper will unravel whether changes in above-ground biodiversity alter the relationship between soil biodiversity and ecosystem multi-functionality, and if innovative farming practices that increase plant diversity are a vehicle for optimising the simultaneous delivery of multiple beneficial soil ecosystem services for resilience and adaptation to climate change. Relying on a network of 250 sites across arable farming systems and grasslands across Europe, it will compare ecosystem services (e.g. carbon sequestration; NUTRIENT LOSS AND CYCLING) in organic AND conventional farming WITH VARIOUS DIVERSIFICATION PRACTICES and develop a framework to identify innovative land management practices that maximize impacts on the yield, biodiversity and sustainability of agro-ecosystems.



Study sites: Network of 250 sites across arable farming systems and grasslands in Germany, France, Spain, Sweden and Switzerland

## **IMAGINE** – Integrative Management of Green Infrastructures Multifunctionality, Ecosystem integrity and Ecosystem Services: From assessment to regulation in socio-ecological systems

IMAGINE aims at quantifying the multiple functions, ecosystem services and benefits provided by Green Infrastructures (GI) in different contexts from rural to urban, using case studies ranging from a North-South gradient across Europe. Within this quantification IMAGINE will explicitly consider ecosystem disservices, particularly in agricultural systems, and focus on model-based exploration of alternative management options for designing multifunctional GI-networks. It will provide guidelines and elaborate ready-to-use methods for an integrative management of GI multifunctionality, together with a toolbox of adaptive management and restoration techniques particularly relevant to ecological engineers and landowners.



### Study sites:

France: Syndicat Mixte Bassin de Thau (Mediterranean sea) and PNR Scarpe Escaut (Nord Pas de Calais)

Norway: Greater Trondheim Region

Belgium: Catchment of the middle and upper courses of the rivers Grote Nete and Molse Nete

Estonia: Tallinn City hinterland

Germany: Bornhöved Lake District

**OSCAR** – Optimising the configuration of woody riparian buffer strips along rivers to enhance biodiversity and ecosystem services

OSCAR will investigate the effects of woody buffers and their spatial arrangement in a green infrastructure network on biodiversity and ecosystem functions. It will develop practical guidance on how to optimize the configuration of woody buffers to effectively increase ecosystem services (e.g. biocontrol, pollination and water pollution control), biodiversity, connectivity, and the potential to mitigate the temperature increase due to climate change.



Study sites: France (FR), Germany (DE)

**SOILCLIM** – Managing soil biodiversity and ecosystem services in agroecosystems across Europe under climate change

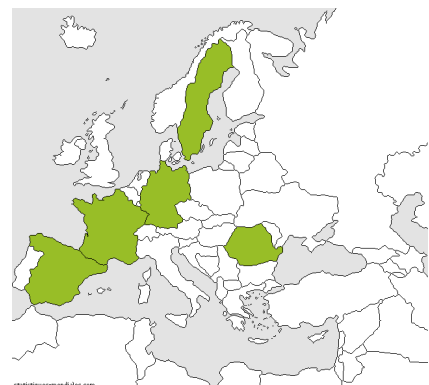
SOILCLIM will address the pressing need to better predict consequences of climate change on soil biodiversity and ecosystem services in agro-ecosystems over a European transect of climatic conditions and soil properties. It will investigate in particular the impacts of droughts, soil organic carbon levels and long-term fertilization strategies on soil biodiversity and ecosystem services such as crop productivity, decomposition and biocontrol. Together with the development of indicators that can act as an early warning system for a decline of the provision of soil ecosystem services in response to drought, the project will provide practical evidence of how to counteract negative consequences of climate change on agricultural production.



Study sites: Sweden, Germany, Switzerland, Spain

**SOILMAN** – Ecosystem services driven by the diversity of soil biota – understanding and management

SoilMan will advance the understanding of how the interplay of farm based soil management practices affect soil biodiversity and how soil biodiversity in turn feeds back to soil functions and ecosystem services as factors for productivity and sustainability across agricultural systems of main biogeographical regions of Europe. On a practical level, it will deliver strategies for improving soil biodiversity and associated services for the long-term sustainable



management of soils as a basis of human nutrition and wellbeing and develop cost-effective indicators on soil resilience and resistance intended for farmers and farm advisors.

Study sites: Field sites of typical farming systems in Spain, France, Germany, Sweden, Romania

**URBANMYCOSERVE** – Understanding and Managing Urban Ectomycorrhizal Fungi Communities to Increase the Health and Ecosystem Service Provisioning of Urban Trees

URBANMYCOSERVE will provide an assessment of the mycorrhizal communities and functional group composition of trees, and of their environmental drivers, using next generation sequencing techniques. It will identify and relate specific ectomycorrhiza (EcM), or functional groups of EcM to tree fitness and ecosystem service delivery and resilience. On a practical level, it will develop and test (in situ & ex situ) a dedicated EcM-inoculum to improve tree health, ecosystem service delivery and resilience with various applications ranging from urban to rural systems.



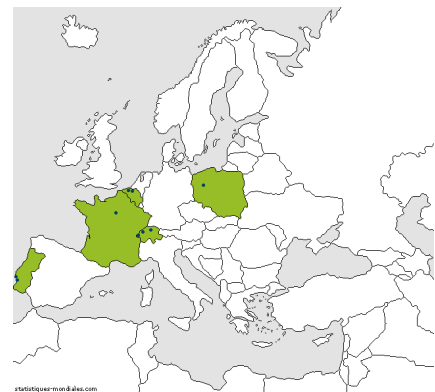
Study sites:

Belgium (Leuven), France (Strasbourg), Portugal (Porto).

#### PROJECTS IN THE THEMATIC SESSION ON URBANISM

**BIOVEINS** – Connectivity of green and blue infrastructures: living veins for biodiverse and healthy cities

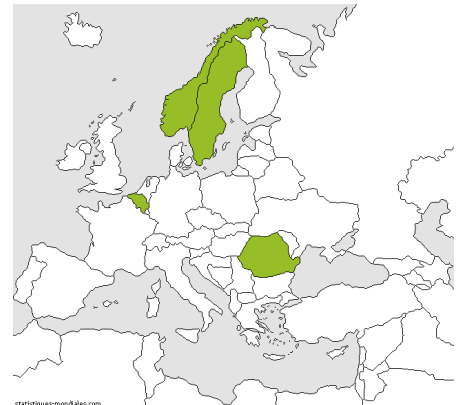
The main objective of our BIOVEINS proposal is to use functional diversity to highlight the mechanisms underpinning the link between green and blue infrastructures (GBI), taxonomic diversity and ecosystem services provisioning, and to provide, together with local stakeholders, the ecological and interdisciplinary knowledge to identify the critical features of GBI, to guide the establishment, management and restoration of GBI, and to mitigate the effects of major urban global challenges, like habitat fragmentation, air pollution, and urban heat islands.



Study sites: Lisboa and Almada (PT), Zurich, Geneva and Bern (CH), Paris (FR), Ghent and Antwerp (BE), Poznań (PL)

**CROSSLINK** - Understanding cross-habitat linkages between blue and green infrastructure to optimize the management of biodiversity, ecosystem services and multiple human uses

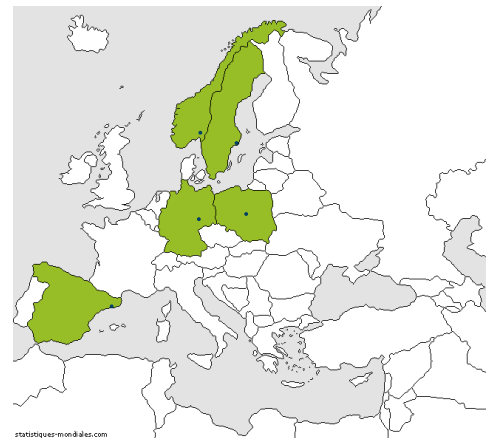
CROSSLINK aims to (i) evaluate how the extent, spatial arrangement and connectivity of riparian-stream GBI affects biodiversity, ecosystem functioning, ecosystem services, and resilience indicators in forested, urban and rural settings, and (ii) to produce an optimization framework capable of balancing multiple values, uses and needs with longer term adaptive capacity and resilience in riparian-stream GBI. The project will develop in particular the Crosslink learning environment, which consists of science-based information to help address conflicts, and to provide guidance for optimizing the design of stream-riparian networks in rural to urban settings.



Study sites: Sweden, Norway, Romania and Belgium

**ENABLE** – Enabling green-blue infrastructure in complex social-ecological regions - system solutions to wicked problems

Connections to the wider social-ecological system are critical to Green and Blue Infrastructure (GBI) performance. The successful design and implementation of GBI requires careful consideration of a number of key aspects, such as user rights, people's perceptions of the benefits of GBI, accessibility, and ecological connectivity. The ENABLE project adopts a transdisciplinary approach to investigate the role GBI can play in tackling the socio-ecological challenges facing urban regions, taking into account how these key aspects interact and influence the performance of a green or blue solution. The project will develop methods and tools for assessing 1) how and under what conditions the benefits provided by GBI are most appreciated by people, 2) the accessibility and distribution of GBI benefits among urban residents, and 3) how the continuation of GBI benefit-flows can be secured in the long-term.

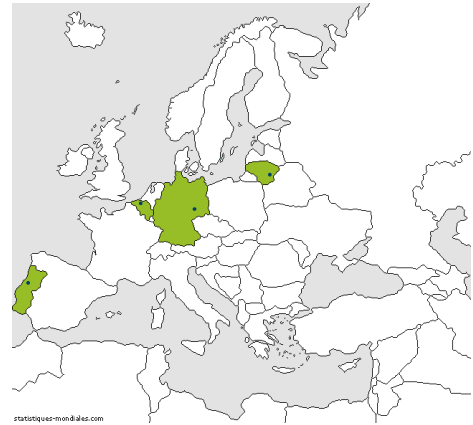


Study sites: Stockholm (SE), Oslo (NO), Barcelona (ES), Halle (DE), Lodz (PL), New York (USA)

**URBANGAIA** – Managing urban Biodiversity and Green Infrastructure to increase city resilience

UrbanGaia will capitalize the untapped knowledge of the many existing Green-Blue Infrastructures (GBI) in the urban context. The project will develop strategies and techniques to improve the governance and management of the urban GBI, aiming to: [i] increase

biodiversity; [ii] enhance the environmental services provided by urban ecosystems and their impacts for the quality of life; [iii] develop new strategies to improve urban ecosystems and GBI governance, including management, planning, policy and legislation levels of intervention. The project will develop realistic indicators to evaluate, manage and develop performant GBIs in cities and intensively managed landscapes and provide tools for guiding their evaluation, establishment and management. The project applies an innovative two-way approach of scientific mobilisation and spatial data mobilisation on the one hand, and on the other the transdisciplinary project guidance by GBI stakeholders, supported by citizen science applications.



Study sites: Vilnius (LT), Leipzig (DE), Ghent (BE), Coimbra (PT)