Draft proposal for a

European Partnership under Horizon Europe

Rescuing Biodiversity to Safeguard Life on Earth

Version 14 May 2020

Summary

This Partnership will provide an overarching platform connecting national/local and European Research & Innovation programs and combining in-cash and in-kind resources in support of one goal: by 2030 biodiversity in Europe is back on a path of recovery. It will co-develop multidisciplinary R&I programs with stakeholders, set up a European network of harmonized observatories for biodiversity monitoring, and implement a broad range of activities to increase relevance, impact and visibility of R&I and EU leadership in tackling the biodiversity crisis, in line with the European Green Deal and the new EU Biodiversity Strategy for 2030.

About this draft

In autumn 2019 the Commission services asked potential partners to further elaborate proposals for the candidate European Partnerships identified during the strategic planning of Horizon Europe. These proposals have been developed by potential partners based on common guidance and template, taking into account the initial concepts developed by the Commission and feedback received from Member States during early consultation[1]. The Commission Services have guided revisions during drafting to facilitate alignment with the overall EU political ambition and compliance with the criteria for Partnerships.

This document is a stable draft of the partnership proposal, released for the purpose of ensuring transparency of information on the current status of preparation (including on the process for developing the Strategic Research and Innovation Agenda). As such, it aims to contribute to further collaboration, synergies and alignment between partnership candidates, as well as more broadly with related R&I stakeholders in the EU, and beyond where relevant.

This informal document does not reflect the final views of the Commission, nor pre-empt the formal decision-making (comitology or legislative procedure) on the establishment of European Partnerships.

In the next steps of preparations, the Commission Services will further assess these proposals against the selection criteria for European Partnerships. The final decision on launching a Partnership will depend on progress in their preparation (incl. compliance with selection criteria) and the formal decisions on European Partnerships (linked with the adoption of Strategic Plan, work programmes, and legislative procedures, depending on the form). Key precondition is the existence of an agreed Strategic Research and Innovation Agenda / Roadmap. The launch of a Partnership is also conditional to partners signing up to final, commonly agreed objectives and committing the resources and investments needed from their side to achieve them.

The remaining issues will be addressed in the context of the development of the Strategic Research and Innovation Agendas/ Roadmaps, and as part of the overall policy (notably in the respective legal frameworks). In particular, it is important that all Partnerships further develop their framework of objectives. All Partnerships need to have a well-developed logical framework with concrete objectives and targets and with a set of Key Performance Indicators to monitor achievement of objectives and the resources that are invested.

Aspects related to implementation, programme design, monitoring and evaluation system will be streamlined and harmonised at a later stage across initiatives to ensure compliance with the implementation criteria, comparability across initiatives and to simplify the overall landscape.

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[1] https://www.era-learn.eu/documents/final_report_ms_partnerships.pdf

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1 Context, objectives, expected impacts

1.1 Context and problem definition

❖***Biodiversity status & trends, and their implications for people globally***

Biodiversity (biological diversity at the genetic, species and ecosystem levels) and nature's contributions to people are our common natural heritage, which underpins our health and quality of life, livelihoods, food security and economies. Yet, the Global Assessment recently released by the Intergovernmental Platform for Biodiversity and Ecosystem Services (IPBES)[2] as well as other studies and syntheses[3] show that biodiversity is declining globally at rates unprecedented in human history. Indeed 75% of the terrestrial environment, 40% of the marine environment and 50% of rivers and streams are severely altered due to human activity and the rate of species extinctions is accelerating, with major impacts on goods and services provided by nature and major consequences for people around the world[1]. For example, up to US$577 billion in annual global crops are at risk from pollinator loss, and 100-300 million people are at increased risk of floods and hurricanes because of loss of coastal habitats[1]. The production patterns, increase in human population with unsustainable consumption, and rapid urbanization projected in the coming decades are expected to lead to growing demand for resources, posing significant conflicts for land and risks to biodiversity with negative consequences for human well-being and health (including increased risk of new zoonotic diseases spilling over into humans, see Box 1), economy and social equity.

Box 1: The on-going COVID-19 crisis is a stark reminder of the importance of the relationships between biodiversity and human health

In recent decades, zoonotic diseases – diseases transferred from animals to humans– have gained international attention. Ebola, avian influenza, H1N1 flu virus, Middle East respiratory syndrome, Rift Valley fever, Sudden Acute Respiratory Syndrome, West Nile virus, Zika virus, and now the coronavirus HCoV-19 have all caused or threatened to cause major pandemics, with thousands of deaths and billions in economic losses.

High biodiversity areas may play host to a larger pool of pathogens, but high biodiversity areas in healthy condition can hold those pathogens in check. Human impingement on natural habitats, biodiversity loss and ecosystem degradation are making virus spillover events much more likely[4]. Habitat destruction reduces the habitat availability for wildlife to the extent that they need to resort to human settlements. As people move further into the territories of wild animals to clear forests, raise livestock, hunt and extract resources, they are increasingly exposed to new pathogens, which increases the likelihood of virus transfer to humans. Ecosystem disruption also has an impact on how viruses behave in the wild. So-called "wet markets" selling meat and live animals provide another incubator for the emergence of infectious diseases.

Decreasing species diversity has also been linked to increasing disease outbreaks. For example, decreasing mammal diversity has been linked to increasing prevalence of infection in ticks, because the dilution effect is lost, and consequently the risk of human exposure to Lyme disease increases.

The health of animals, the ecosystems and humans are all interlinked (One Health approach), and when one is out of balance, others follow suit[5]. To cope with pandemics, a holistic approach will thus be needed not only focusing on reducing disease spread, development of vaccines and improved healthcare but most notably on tackling the root causes of its origin: biodiversity degradation and altered human-nature relationships. In addition the numerous health benefits derived from nature including from urban green spaces should receive greater attention.

[2] https://ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf

[3] Blowes SA et al. 2019. The geography of biodiversity change in marine and terrestrial assemblages. Science 366, 339–345.

[4] Johnson et al. 2020. Proc. Royal Soc. B (doi.org/10.1098/rspb.2019.2736)

[5] in 2018, BiodivERsA launched a call on 'biodiversity & health' ; 2 funded projects study wild animal reservoirs of viruses, including coronaviruses (see https://www.biodiversa.org/1643)

In addition, the Intergovernmental Panel for Climate Change (IPCC) Special Report[6] asserts that a global warming of 1.5 °C would lead to devastating impacts on biodiversity and the ecosystem services it provides. Overall, the main causes of biodiversity decline are changes in land and sea use by humankind, direct exploitation of organisms, climate change, pollution, and invasive alien species. Despite progress to conserve nature, global goals for conserving and sustainably using nature cannot be met by current trajectories. Goals for 2030 and beyond may only be achieved through transformative changes across economic, social, political and technological sectors, and through a clear shift in mind-set. By making good progress on only four of the twenty Aichi Biodiversity Targets[1], it is clear that most will be missed by the 2020 deadline. The current negative trends in biodiversity will undermine progress towards not only Targets 14 (oceans) and 15 (land) but many of the targets of the Sustainable Development Goals (SDGs)[7] related to poverty, hunger, health, water, cities and climate (SDGs 1-3, 6, 11, 13) which all strongly depend on good biodiversity status (Fig. 1).

Figure 1: The good status of biodiversity is the basis for sustainable development and a pre-requisite to achieve the Sustainable Development Goals (from Rockström and Sukhdev at EAT conference).

Loss of biodiversity is therefore not only an environmental issue, but also a developmental, economic, security, health, social and ethical issue. This is illustrated by the recently released Global Risks Report 2020[8] that identifies biodiversity loss and ecosystem collapse within the top five of major threats that may impact global prosperity in 2020 and over the next decade.

❖***Biodiversity status and trends, and their implications for people in Europe***

A IPBES Regional Assessment[9] shows that biodiversity in Europe follows this global trend of strong decline (Fig. 2), with major impact on the contributions it provides to people. Economists estimate that the loss of biodiversity in Europe costs the EU around 3% of GDP per year[10]. Similarly, about 15 billion of the EU's annual agricultural output is directly attributed to insect pollinators[11]. The EU has an extensive legal and policy framework aimed to protect, restore and sustainably manage its natural habitats, species and ecosystems[12] and to integrate biodiversity across EU policies and instruments[13]. However, in the EU only 16% of the most important natural habitats and 23% of the protected species are doing well[14], indicating unsatisfactory status of biodiversity in Europe This threatens the delivery of

[6] https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf
[7] Blicharska, M. et al. 2019. Biodiversity's contributions to sustainable development. Nat Sustain 2, 1083–1093. See also: https://sustainabledevelopment.un.org/?menu=1300
[8] Global Risks Report 2020: https://www.weforum.org/reports/the-global-risks-report-2020
[9] https://www.ipbes.net/system/tdf/spm_2b_eca_digital_0.pdf?file=1&type=node&id=28318
[10] http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm
[11] https://www.europarl.europa.eu/news/en/press-room/20191212IPR68921/bees-meps-call-for-reduction-in-use-of-pesticides-to-save-europe-s-bees
[12] In particular the EU Birds Directive (2009/147/EC), the EU Habitats Directive (92/43/EEC), the EU Water Framework Directive (2000/60/EC), the EU Marine Strategy Framework Directive (2008/56/EC) and the EU Invasive Alien Species Regulation (Regulation (EU) No 1143/2014)
[13] In particular the EU policies in the areas of research and innovation, agriculture, fisheries, climate, energy, transport, regional development, development cooperation and trade
[14] State of Nature in the EU Report (COM(2015) 219 final)

ecosystem services e.g. linked to the Natura 2000 network, estimated to be worth up to 300 billion € a year[15]. As Parties to the Convention on Biological Diversity, the EU and its Member States have adopted a series of strategies and action plans aimed at halting and reversing the loss of biodiversity, including the EU biodiversity strategy to 2020[16]. Conservation, restoration and management actions have a positive impact on the reduction of biodiversity loss but, as shown by both the 2015 mid-term evaluation of the EU Biodiversity Strategy[17] and the fitness check of the Nature Directives[18], these actions have not been implemented effectively or at sufficient scale to stabilise and ultimately reverse current declines. The main drivers of biodiversity loss persist and many are on the increase. Funding and capacity to tackle the root causes are insufficient, and barriers to integration remain.

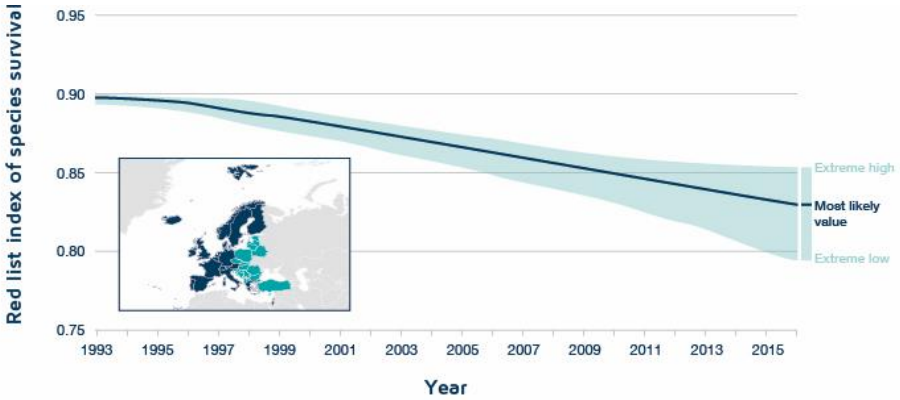

Figure 2: Trend in Red List Indices of species survival (aggregated for birds, mammals and amphibians) within Central and Western Europe. The position on the vertical axis indicates the risk of extinction (the closer to one the lower the aggregate extinction risk). Source: IUCN, in: IPBES (2018)[7].

❖***Biodiversity: also a fundamental asset for Nature-based Solutions to societal challenges***

Keeping in mind the interests of the current and future generations, biodiversity is a natural heritage and public good to conserve as a moral duty, but also a fundamental asset for Nature-based Solutions tackling numerous societal challenges. Nature-based Solutions are cost-effective solutions that are inspired and supported by nature, simultaneously providing environmental, social and economic benefits and helping build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions[19]. The idea underlying Nature-based Solutions is that, subject to appropriate epistemological and ethical precautions, the ecological performance and resilience capacity of biologically diverse ecosystems must be considered when searching for sustainable solutions to tackle societal challenges. Provided that they have not lost important species and genetic diversity, semi-natural and natural habitats harbour genetic variation within and amongst species which have evolved under natural selection during varying climatic conditions for thousands of years. Furthermore, this natural selection and co-adaptation of species, supported by their genetic variation, has occurred on-site, yielding local adaptations. Thus, as highlighted in the statements at the United Nations' Climate Action Summit in September 2019, it is increasingly recognised that biodiversity is also a major asset to innovate and develop solutions tackling many challenges our society faces. Nature-based Solutions[20,21,22] are a fundamental part of action for climate and other societal challenges. For

[15] Draft EU Biodiversity 2030 Strategy
[16] Our life insurance, our natural capital: an EU biodiversity strategy to 2020 (COM(2011) 244 final)
[17] http://data.consilium.europa.eu/doc/document/ST-12683-2015-INIT/en/pdf
[18] https://ec.europa.eu/environment/nature/legislation/fitness_check/docs/nature_fitness_check.pdf
[19] https://ec.europa.eu/research/environment/index.cfm?pg=nbs

[20] https://ec.europa.eu/research/environment/index.cfm?pg=nbs
[21] https://www.biodiversa.org/898/download

instance, Nature-based Solutions could provide over one-third of the cost-effective climate mitigation needed between now and 2030 to stabilize global warming below +2°C, achieving nature's mitigation potential of 10-12 gigatons of CO_2 per year[23]. As part of the portfolio of possible actions, adequate investment in Nature-based Solutions can also help achieving climate change adaptation, disaster risk-reduction, better health, halt of land degradation, reinforced sustainability of businesses and sectors like agriculture, forestry, fisheries and infrastructures, and better human well-being and quality of life including in cities, while simultaneously contributing to the conservation and sustainable use of biodiversity[24]. Clearly, investing in Nature-based Solutions is a crucial and smart strategy, complementary to other strategies which make less use of biodiversity or fully rely on technological innovations, to reach the goals of the UN SDGs, the Paris Agreement, the Sendai Framework on Disaster Risk Reduction, and Biodiversity Strategies at all levels.

❖***The business case of biodiversity***

The value of biodiversity is still underrated and therefore biodiversity is considered unimportant or even disturbing in economy, trade policy and development decision-making. Investment decisions in different sectors often fail to take their potential impacts on biodiversity into account or to recognise the potential contribution that biodiversity can make to their desired achievements. Economies depend on ecosystems. In other words 'the economy is a subsidiary of nature'. When ecosystems collapse economies will fail, hence it is important to change the currently prevailing narrow economic growth paradigm into a wider green sustainable economic growth. The green economy is an important area for job growth, as reiterated in various European Commission initiatives calling on Member States to invest in 'green skills' and identifying the green economy as one of three economic sectors with the strongest potential for job growth[25]. However, the potential for biodiversity to affect and be affected by economic development and processes still largely remains overlooked. The need for including natural capital into public and private accounting and reporting systems is therefore crucial. The integration of the business environment into conservation and restoration of biodiversity is a challenge per se. The business case should be built around a narrative that describes the importance and value of biodiversity and ecosystem services for private sectors, which needs to be backed by compelling scientific evidence. A widely accepted, science-based methodology to integrate ecosystems and their services into decision making[26], to value ecosystems and to characterize the biodiversity footprint of human activities (including guidance on natural capital assessment for businesses) is instrumental in this respect. Meanwhile, clear and robust trans-European value chain on biodiversity valorisation could foster biodiversity added value recognition and produce innovation and competitiveness and employment. Overall, and as stated by the President of the European Commission Ursula von der Leyen in her 'Agenda for Europe'[27], "*those who act first and fastest will also be the ones who grasp the opportunities from the ecological transition*".

❖***New needs in terms of research***

Facing the current biodiversity crisis and its multiple drivers, it is needed to reinforce the science-based knowledge on biodiversity status, dynamics and trends, and on the multiple and interacting causes and consequences of biodiversity loss and degradation of ecosystem services as on levers of action. An effective science-policy interfacing is also important to foster cost-effective measures and management options for maintaining and restoring our

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[22] https://www.iucn.org/sites/dev/files/content/documents/nature-based_solutions_to_address_global_societal_challenges.pdf

[23] https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR_2017.pdf ; IPBES Global Assessment

[24] https://www.ipbes.net/system/tdf/spm_3bi_ldr_digital.pdf?file=1&type=node&id=28335

[25] http://eprints.qut.edu.au/85922/1/sbenrc_1.5biophilicurbanism-industryreport.pdf

[26] https://ec.europa.eu/environment/nature/ecosystems/pdf/SWD_2019_305_F1_STAFF_WORKING_PAPER _EN _V2_P1_1042629.PDF

[27] https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf

natural capital while respecting the planetary boundaries. Research is needed to develop and assess novel tools and approaches to biodiversity conservation, restoration and sustainable management, including Nature-based Solutions; to develop guidelines to promote 'closer to nature' standards and practices across different sectors; and to underpin the ability to measure and communicate progress towards the upcoming targets of policy agendas. Furthermore, in order to efficiently tackle the interdependent biodiversity and climate crisis, both issues need to be tackled in an integrated manner, mobilizing different research communities and a broad range of stakeholders. It is also important to support academically excellent research that is the basis to inform and support policy makers and other stakeholders.

❖***Increased awareness at high political level***

With the scientific evidence currently available, based on observations and modelling in particular, it seems the world is on the verge of the same awakening to the biodiversity crisis as the one we are witnessing on climate change. For instance, the state of environment report 2020 for Europe[28] indicates that Europe will not achieve its 2030 goals without urgent action during the next 10 years to address the alarming rate of biodiversity loss, increasing impacts of climate change and the overconsumption of natural resources. This is underlined in the vision the President of the European Commission has promoted for Europe (Box 2). As a direct response, an important place to biodiversity issues is allocated in the document presenting the orientations towards the first Strategic Plan for Horizon Europe[29], in particular regarding investments in research and innovation concerning food, bio-economy, natural resources, agriculture and environment (Cluster 6).

Box 2: Vision of the President of the European Commission Ursula von der Leyen regarding the need to preserve Europe's natural environment, part of the political guidelines for the next European Commission[30]

"Climate change, biodiversity, food security, deforestation and land degradation go together. We need to change the way we produce, consume and trade. Preserving and restoring our ecosystem needs to guide all of our work. We must set new standards for biodiversity cutting across trade, industry, agriculture and economic policy.

As part of the European Green Deal, we will present a Biodiversity Strategy for 2030.

Our environment, our natural jewels, our seas and oceans, must be conserved and protected. Europe will work with its global partners to curtail biodiversity loss within the next five years. I want us to lead the world at the 2020 Conference of the Parties to the Convention on Biological Diversity, just as we did at the 2015 Paris Climate Conference."

'Halting biodiversity decline and restoring ecosystems through improved knowledge and innovative solutions contributing towards reaching the global vision for biodiversity 2050' represents one of the major targeted impacts in this context. This should be echoed in the 8th Environmental Action Programme planned to be adopted in 2020[31]. It should embrace and complement the Green Deal, while including measures to help reach the SDGs in 2030. Parties of the Convention on Biological Diversity are currently preparing for a post-2020 global biodiversity framework that aims to reinforce the three objectives of the Convention on Biological Diversity and to set high ambition for biodiversity conservation and ecosystem restoration, ecosystem connectivity, ecological restoration, avoid ecosystem degradation and safeguard and enhance biodiversity and nature contributions to people at all levels. In Europe, the New Strategic Agenda for 2019-2024[32] adopted by the European Council commits to lead

[28] https://www.eea.europa.eu/soer-2020/

[29] https://ec.europa.eu/info/sites/info/files/research_and_innovation/strategy_on_research_and_innovation/documents/ec_rtd_he-orientations-towards-strategic-plan_102019.pdf

[30] https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf

[31] https://eeb.org/library/priorities-for-the-european-green-deal-and-8th-environmental-action-programme/

[32] https://www.consilium.europa.eu/media/39914/a-new-strategic-agenda-2019-2024.pdf

efforts to stop the loss of biodiversity and preserve and restore ecosystems. In the EU –for both the European Commission and Member States– research is pivotal and necessary to meet the obligations of the Habitats Directive's articles 18, 2 and 10 by, for example, tailoring/adapting the conservation and restoration measures to achieve maximum efficiency at overarching, regional and local levels. The G7/G20 declarations and the World Economic Forum[33] also underlined the need to halt biodiversity loss, which further demonstrates that this issue is now recognized also at the highest political level. And the current Covid-19 crisis has reminded us of the relationship between drivers of biodiversity loss and human health.

❖*Need for transformative change*

The IPBES Global Assessment revealed that action at the level of direct drivers of nature decline, although necessary, is not sufficient to prevent further biodiversity degradation[1,34]. Reversal of biodiversity loss is only possible with urgent transformative change that tackles the root causes of biodiversity loss and linked challenges including climate change and health: i.e. the interconnected economic, socio-cultural, demographic, political, institutional, and technological indirect drivers behind the direct drivers (Fig. 3).

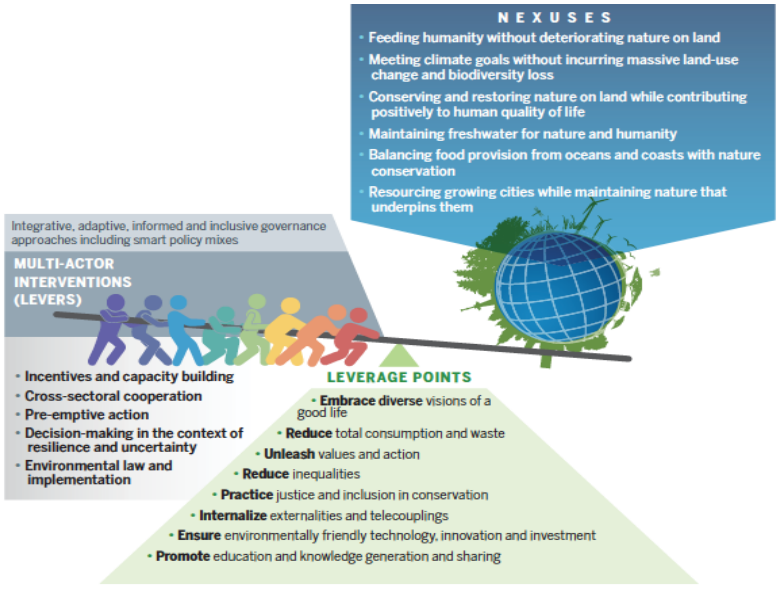

Figure 3: Enabling transformative change to tackle the biodiversity crisis. Collaborative implementation of priority interventions (levers) targeting key point of intervention (leverage points) could enable transformative change from current trends toward more sustainable ones. This requires innovative governance approaches and actions around nexuses, representing closely interdependent and complementary goals (Diaz et al. 2019[30])

This transformation will need a cross-sectoral approach ensuring policy coherence and effectiveness, as well as innovative governance approaches that are adaptive (learning, monitoring and feedback); inclusive (right-based and reflecting a plurality of views and ensuring equity); informed by existing and new evidence; and integrative across systems, jurisdictions, and tools. R&I in the biodiversity domain will thus need to recognize that ecological, social and technological changes go hand in hand and co-evolve, and to focus on this alignment and breakdown of silos. It should also bring issues such as civil society participation (e.g. citizen science) and co-production of knowledge with stakeholders more centrally into the frame. Further it should promote effective communication on biodiversity issues to achieve improved awareness of the multiple benefits of biodiversity.

❖*Previous framework interventions and results*

Biodiversity-related R&I, including basic and applied research, training, infrastructures and demonstrators, have been addressed over successive EU research framework programs. But

[33] https://www.weforum.org/agenda/2020/01/nature-risk-biodiversity-climate-ocean-extinction-new-deal/
[34] Diaz S. et al. (2019). Science 366, 6471, eaax3100

the percentage of biodiversity research funding by the European Commission compared to its total expenditures to research has been steadily declining since 2007[35]. There have been several key initiatives funded under Horizon2020 to interconnect science and policy, such as OPPLA (EU Repository of Nature-based Solutions); EKLIPSE (the Knowledge & Learning Mechanism on Biodiversity & Ecosystem Services); and ThinkNature and its successor NetworkNature (Multistakeholder Platform on Nature-based Solutions). Noticeably, the Framework Programme created by the European Union to support and foster research in the European Research Area has also allowed funding a set of research and demonstration projects (Innovation Actions and Research Innovation Actions) on Nature-based Solutions. Recognizing that mapping and assessment of ecosystems and their services in the EU and its Member States are core to support the implementation of the EU Biodiversity Strategy to 2020, the MAES (Mapping and Assessment of Ecosystems and their Services) initiative was launched in 2012. Throughout its development, MAES benefited from the activities implemented by several projects such as OpenNESS, OPERAs, and ESMERALDA aiming at delivering a flexible methodology to provide the building blocks for pan-European and regional assessments of biodiversity and ecosystem services; MOVE/MOVE-on for mapping and assessing the benefits coming from the European overseas' ecosystems; MAIA (Mapping and Assessment for Integrated ecosystem Accounting) aiming at mainstreaming natural capital and ecosystem accounting in EU Member States; and the KIP-INCA (Knowledge Innovation Project on Natural Capital Accounting) developing an integrated natural accounting system for ecosystems and their services and associated data sets. In addition, the European Commission has supported Joint Programming on biodiversity, ecosystem services and Nature-based Solutions through BiodivERsA since 2005.

❖***Building on previous partnerships and results***

This European Partnership will build on the efficient structuring of the European Research Area in the domain achieved by BiodivERsA which, from 2005 onwards, has demonstrated the openness, long-term financial commitment and flexibility needed to have the required impact. The BiodivERsA network has continuously expanded, from 13 Member states and Associated Countries in 2005 to 25 in 2019. It now gathers 39 Ministries, agencies and foundations, and in 2015 BiodivERsA joined forces with members of the former NetBiome network to also mobilize local authorities in Outermost Regions (ORs) and Overseas Countries and Territories (OCTs). BiodivERsA has demonstrated its capacity to support researches that have high levels of excellence both in terms of academic outputs and policy/society relevance and impacts[36]. In addition, BiodivERsA has developed an approach allowing concrete and successful participation for many EU13 countries. The European Partnership on biodiversity will also build on BiodivERsA's experience in promoting coherent science-policy/science-society interfacing at all stages of the research process. This approach allows engaging with stakeholders from policy, society and business in the strategic programming, implementation and dissemination of research. Over the last few years, it has led to close and mutually beneficial collaborations with stakeholders both at the programme level and at individual projects' levels[37,38]. This has resulted in impacts for society and decision-making, often based on findings from co-developed research projects. It has also led to fruitful collaborations with private economic actors whose activities depend on natural resources, although the successful collaborations with large businesses are not as common and would require particular attention. Overall, BiodivERsA had a range of impacts, many of them summarised in a booklet published in 2018[39]. This includes:

[35] https://www.biodiversa.org/1655/download

[36] Lemaitre F. & Le Roux X. (2015) Analysis of the outputs of BiodivERsA funded projects: BiodivERsA 2008 joint call on "Biodiversity: linking scientific advancement to policy and practice". BiodivERsA report, 63 pp.

[37] http://www.biodiversa.org/889/download

[38] https://www.biodiversa.org/1557/download

[39] Blery C., Lemaitre F. & Le Roux X. (2018). BiodivERsA main achievements for research on biodiversity, ecosystem services and Nature-based Solutions over 2008-2018, 52pp.

- build-up of a strong ERA on biodiversity, with 39 partners from 25 countries corresponding to ca. 75% of the funding capacity of biodiversity R&I in Europe;
- key contributions to the emergence of the R&I agenda on Nature-based Solutions through contribution to framing the concept, disseminating it in national agendas and supporting related research;
- efficient mapping of the biodiversity R&I landscape across Europe, including national and local programmes for competitive funding of biodiversity research projects (over 11,500 projects referenced in a database) and biodiversity research infrastructures;
- development of the BiodivERsA Strategic Research and Innovation Agenda[40] with inputs from a broad range of stakeholders, which was influential for national R&I programs in some countries and for DG R&I;
- direct support to 104 R&I pan-European projects and 2,576 researchers, for a total of 239 Mio € (including 151 Mio € in cash);
- dissemination of research results to support policy (policy briefs, contribution to IPBES assessments), private actors (innovation workshops), and a broad range of stakeholders (through OPPLA platform).

Based on these achievements, the BiodivERsA members have set up the BiodivERsA Partnership through a Memorandum of Understanding in 2018. Further, BiodivERsA was selected in October 2019 to host the 'Catalysing Knowledge Generation' part of the IPBES Technical Support Unit on Knowledge and Data.

In addition, the European Partnership on biodiversity will also build on the efficient networking and collaboration achieved during the past years between partners of MAES and of MOVE. These projects provided a knowledge base on ecosystems and their services with a coherent analytical framework as well as common definitions and typologies for clustering habitats and mapping of ecosystems and a typology of ecosystem services for accounting, to be applied by the EU and its MS, ORs and OCTs. The integration of MAES with the partnership would facilitate its continuity, implementation by EU Member States and upscaling (pan-European, global) in the long-term. It could reinforce the visibility of MAES science-policy role for informing policy while being more tightly linked to research agendas, supporting the development of new methods and indicators for biodiversity and ecosystem services monitoring and wider uptake of the results. MAES could bring additional national/sub-national commitment, understanding of policy need for long term monitoring for biodiversity/ecosystems, monitoring of whether or not the actions are commensurate to achieve the policy objectives, and mainstreaming this aspect in different sectors/stakeholders.

This European Partnership on biodiversity will thus build on already successful joint programming and cooperations, further widening the scope of members and reinforcing the link with policy makers and stakeholders (including collaboration with the private sector, citizens). The Partnership will further increase synergies between existing initiatives, tools and mechanisms, in order to move Europe towards sustainable development pathways, building on and contributing to healthy and biologically diverse ecosystems.

1.2 Common vision, objectives and expected impacts

❖ ***Transformative change framework for the Partnership and main expected impacts***

The members of the European Biodiversity Partnership are committed to the **Global 2050 Vision** of 'Living in harmony with nature' adopted under the Convention on Biological Diversity, and the **corresponding EU vision** that, by 2050, biodiversity and its benefits to people will be protected, valued and restored (Fig. 4). **Long-term Goals** that add up to this 2050 Vision include (Fig. 4):

- No net ecosystem loss by 2030, with species extinction risks decreasing, and

[40] https://www.biodiversa.org/1226

abundances of endangered species and their genetic diversity increasing
- Deployment of Nature-based Solutions at adequate scale to contribute to peoples needs across Europe
- Good biodiversity status fully acknowledged as the basis for sustainable development and a green economy, and the EU leadership will be recognized in this context

To reach these long-term goals, the Biodiversity Partnership will support the contribution of R&I to the EU Biodiversity strategy to 2030 to enable transformative change putting biodiversity on a path to recovery by 2030 for the benefit of climate and people. The Partnership will do this by focusing on five **Overarching Objectives** ("levers" to reach the 2030 Goals for biodiversity) along which impact will be generated (Fig. 4):

(1) **Improved monitoring of biodiversity and ecosystem services** across Europe (status and trends). This will build on existing national/regional monitoring schemes, capacity building for setting up new schemes, and experience from MAES-related processes with regard to enhancing and standardizing tools for mapping and assessment. The aim is a European wide harmonized and operational biodiversity monitoring system implemented by Member States and tightly linked to the R&I ecosystem, informing the policy arena.

(2) **Actionable knowledge to tackle the drivers of biodiversity loss**; knowledge on biodiversity status and dynamics, and for integrating drivers, pressures, impacts and responses; knowledge on trade-offs and synergies between multiple drivers of biodiversity change; and assessment of novel tools and approaches to biodiversity/ecosystem conservation and restoration;

(3) **Evidence base for development and deployment of Nature-based Solutions to societal challenges** in a sustainable and resilient way, hence contributing to conserve biodiversity while addressing multiple agendas such as fighting the climate crisis while also enhancing food security, and water supply. The Partnership will promote the deployment of Type1[41] Nature-based Solutions (largely based on conservation and restoration, possibly with the Partnership on Blue Economy) as a core activity, and deployment of Type2 and Type3 Nature-based Solutions (based on higher levels of intervention on ecosystems) possibly in collaboration (in particular with the Partnerships on *AgroEcology* and *Urban Transitions*, respectively);

(4) **Making the business case for biodiversity,** by contributing science-based methodologies to account for and possibly value ecosystem services and the natural capital, and to assess the dependency and impact of businesses on biodiversity. The intention is to work on a few sectors and demonstrate how adequately valuing and mainstreaming biodiversity and ecosystem services into practices can make a difference in the way these sectors contribute to protect biodiversity; this should align with UN System of Environmental Economic Accounting[42].

(5) **Science-based support for EU policy-making**, including for strengthening environmental policies and laws and their implementation. The Partnership will collaborate closely with the 'Knowledge Centre for Biodiversity' that will be established by the EU with the JRC and EEA (cf. Objective 1) to build the corporate expertise in Europe to inform, track and assess progress in implementing the EU 2030 Biodiversity Strategy and to underpin further biodiversity policy developments. More generally, R&I programmes (cf. Objective 2) will be better linked to the policy arena, allowing better informed policy-making and better assessment of policy efficiency.

[41] Typology according to Eggermont et al. (2015). Nature-based solutions: new influence for environmental management and research in Europe. GAIA – Ecological Perspectives for Science and Society 24: 243-248.
Type 1: No or minimal interventions in ecosystems, with the objectives of maintaining or improving the delivery of a range of ES both inside and outside of these conserved ecosystems; Type 2: management approaches that develop sustainable and multifunctional ecosystems and landscapes, with intermediate levels of intervention; Type 3: managing ecosystems in very extensive ways or even creating new ecosystems

[42] https://seea.un.org/content/about-seea

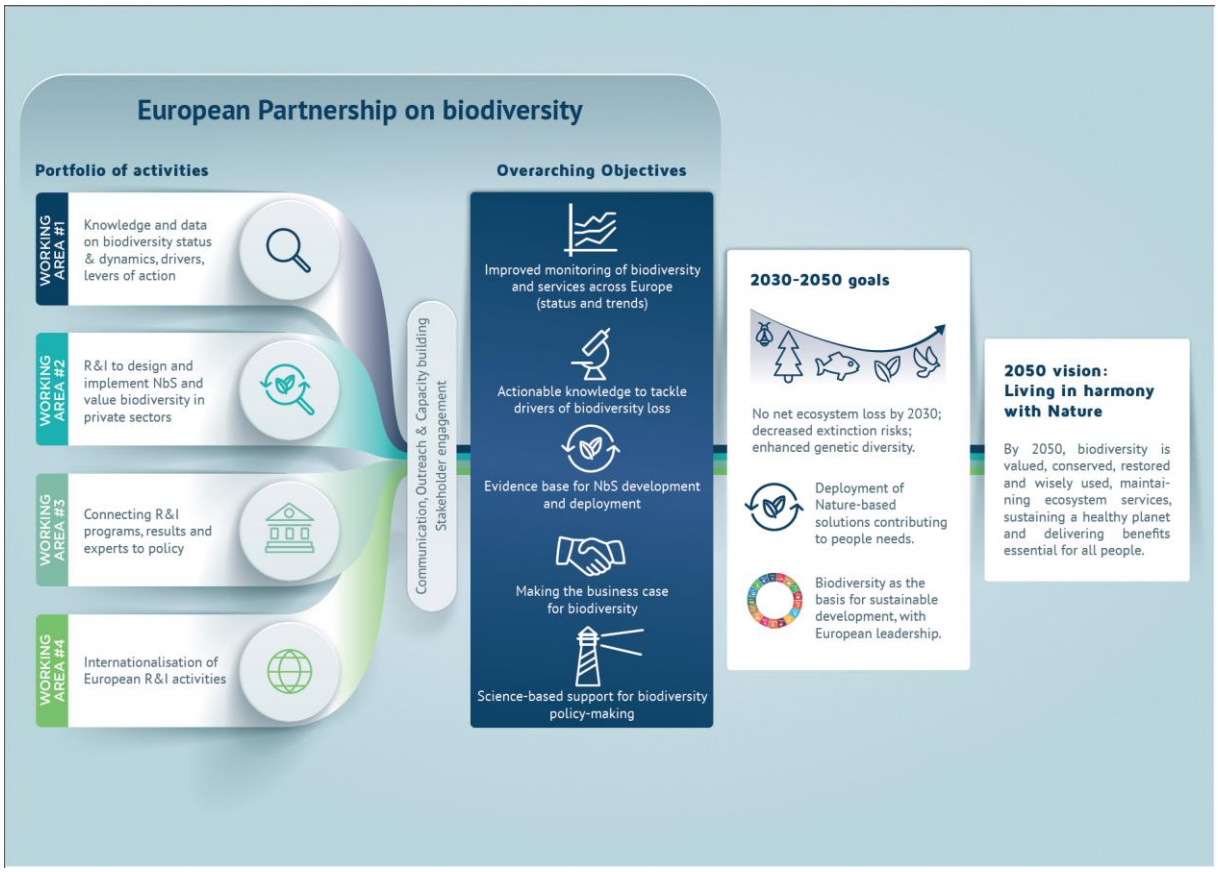

Figure 4: Summary of the (Left) working areas and (Middle) overarching objectives of the European co-funded partnership on biodiversity, which will have a key role to reach (Right) biodiversity goals for 2030 and the 2050 vision of People living in harmony with Nature. R&I: Research and Innovation.

The two first Overarching Objectives recognize the key role of knowledge and data to tackle the biodiversity crisis. The third and fourth objectives are needed as good monitoring of biodiversity status and trends and good knowledge will not be sufficient to tackle the biodiversity crisis. The vision here is that bending the trend in biodiversity loss and inducing transformative changes in economy and society for the sake of biodiversity and synergies to climate change mitigation and other ecosystem services will also require coordinated investment of R&I in Nature-based Solutions, tighter links between R&I and public and private actors, and better science-based support to policy makers.

Meeting these Objectives will require the implementation of a portfolio of activities distributed in **four main Working Areas** as presented in Fig. 4 (#1: Knowledge and data on biodiversity status, dynamics and trends, drivers and levers of action; with more systemic R&I programs and improved monitoring schemes; #2: R&I to design and implement NbS and to value biodiversity in private sectors; #3: Connecting R&I programs, results and experts to policy; #4 Internationalisation of European R&I activities on biodiversity). In addition, the Partnership will activate **two transversal Working Areas** ("leverage points"), more specifically (i) by implementing new strategies for knowledge co-production, with effective engagement of stakeholders at all levels and for all relevant sectors; and (ii) by integrating ambitious communication, outreach and capacity building activities across the five Overarching Objectives. This will induce changes in the way R&I is implemented in the biodiversity domain, and changes in mindset and responsibility across society. **Each Working Area covers a set of activities with operational objectives that are specific, measurable, attainable, realistic and time-bound (SMART). For details, see the section 2.1 below.**

Overall, the activities to be implemented will be guided by a Strategic Research and Innovation Agenda for biodiversity, ecosystem services and Nature-based Solutions, currently developed with inputs from a broad range of stakeholders (Appendix 3). These

activities will catalyse relevant transformational changes at transnational level that are needed to reach the five overarching goals defined above, in particular by:

- Promoting a tighter collaboration than currently observed between national/local and European-level policy makers dealing with biodiversity and related issues, environmental agencies, R&I policy makers and R&I programme funders;
- Promoting a tighter and better coordinated collaboration than currently observed between national/local biodiversity monitoring schemes and R&I actors;
- Implementing more systemic R&I programs and a wider range of approaches with an active engagement of a broad range of stakeholders;
- Interfacing science and policy-making efficiently, addressing multilateral, regional and national policies, and supporting a diversity of governance arrangements and actors engaged in managing nature (i.e. state and non-state actors);
- Promoting innovation by improving research result transfer to relevant enterprises;
- Mainstreaming biodiversity considerations across sectors and policies through the use of tools such as natural capital accounting and the deployment of Nature-based Solutions and other relevant solutions which provide multifunctional and resilient solutions to complex societal challenges;
- Providing support for better engagement of MSs and ACs and R&I actors into the IPBES Work Programme.

❖ ***Synergies with other tools and policies that will enhance impact***

Other tools will be used for policy development, implementation and enforcement (such as EU funds under the 2021-2027 Multiannual Financial Framework including the CAP, Regional and Cohesion Funds and the European Maritime and Fisheries Fund) and for strengthening environment action on the ground (such as collaboration with LIFE). For instance, a pilot action is currently done to mobilize Regional and Cohesion Funds (for Greece) as part of the BiodivClim COFUND Action involving many future members of the Partnership. In addition, several meetings have been hold with the leaders of the European LIFE program to prepare a possible collaboration with this Partnership. By doing so, we would promote synergies between major EU financing instruments relevant to biodiversity protection and sustainable management, making Europe a lead by example.

This Partnership is included in Cluster 6 (Food, Bio-economy, Natural Resources, Agriculture and Environment) with its intervention area on Biodiversity and Natural Capital. It will also **contribute to other European Partnerships from Cluster 6** (especially those concerning agriculture and food, water, as blue- and bio-economy) and to the implementation of other clusters under Horizon Europe, more particularly **Clusters 1, 2 and 5** (see section 1.4). Alignment with the **Horizon Europe missions** is also needed, especially the missions 'Soil Health and Food', 'Adaptation to Climate Change', 'Climate-neutral & smart cities' and 'Healthy Oceans, seas, coastal and inland waters' (see section 4).

❖ ***Overview of the portfolio of activities planned to reach our goals***

To reach impact along the five overarching goals presented above, the European Partnership will build on a range of activities organised along the four – non-exclusive – main Working Areas and two Transversal Working Areas :

Working Area #1: Knowledge and data on biodiversity status and dynamics, drivers, and levers of actions. The Partnership will (i) align and integrate European research efforts for producing new knowledge and (ii) reinforce and better structure the national/regional biodiversity monitoring schemes across Europe, in relation with key research infrastructures and observatories (e.g. GBIF, LTERs, research synthesis centres for biodiversity, LifeWatch ERIC, EMBRC ERIC, and other relevant ERICs) and in complementarity with the future CSA on 'monitoring ecosystems through research, innovation & technology'. This will allow better quantification and understanding of biodiversity dynamics, which is critical for

informing decisions and actions to stop biodiversity loss and more effectively protect, restore and sustainably manage ecosystems and natural capital (link to other Working Areas). This includes characterizing the biodiversity dynamics under global change and in particular the biodiversity footprint of human activities, building on existing field monitoring and making full use of new approaches and tools like those offered by, e.g. artificial intelligence, remote sensing and eDNA. Biodiversity dynamics will be correlated with environmental changes assessed by earth observation programmes and research infrastructures such as Copernicus and relevant infrastructures, and future plausible dynamics will be explored with scenarios. This also includes analysing feedbacks between social and ecological systems; behavioural, societal and economical drivers (including trade) affecting diversity; effectiveness of governance systems; and influence of institutions on the social distribution of ecosystem services[43]. Because we are considering the 2030 horizon and beyond, activities in Working Area #1 will consider both policy/management-driven science (i.e. according to issues already identified in the policy and management arena) but also more bottom-up science that can propose innovative policy/management options and can address issues not well defined today. The activities in this Working Area will contribute to making public and private sectors and decision makers grasp the predicament of the situation we are in (link to Working Areas 2 & 3) as well as to understanding and promoting the behavioural, societal, economic, businesses, technological and institutional determinants of transformational change necessary to halt and reverse biodiversity decline. In addition, as ORs and OCTs are global biodiversity hotspots of biodiversity, the EU and European countries should pay special attention to biodiversity in these areas particularly vulnerable to biodiversity loss. This requires specific efforts to support R&I programs relevant for ORs and OCTs where research communities and facilities are small. Finally, we will also promote citizen science, further increasing the societal relevance of the research and awareness of citizens of the biodiversity crisis.

Working Area #2: R&I to design and develop Nature-based Solutions and value biodiversity in private sectors. The Partnership will enhance the uptake of R&I activities on biodiversity at European and national scales by relevant stakeholders, including businesses and citizens to make Europe a global leader in the sustainable management and use of biodiversity. In particular, the Partnership will inform the development and deployment of Nature-based Solutions contributing to the European welfare, sustainability, economic competitiveness and life quality of citizens. In relation with the ongoing project NetworkNature, the science-society interfacing activities under this Axis will result in improved uptake of science-based knowledge and innovation by practitioners and market. This will help businesses and local authorities to support biodiversity conservation and restoration, to integrate ecosystems and their services into decision-making, accounting and reporting systems, and to develop/deploy Nature-based Solutions to societal challenges such as climate change, food security, clean water, tourism and health. It will also help authorities, businesses and citizens to better assess impacts (both positive and negative) and dependencies on biodiversity.

Working Area #3: Connecting R&I programs, results and experts to policy. Through a diversity of science-policy interfacing activities, and in collaboration with existing tools, the Partnership will support policy makers and other policy stakeholders in the monitoring and evaluation of the efficiency and effectiveness of implementation of biodiversity policies and policy areas affecting biodiversity. The partnership will also reinforce the knowledge base on important policy issues and consequently propose policy options and guide policy development and implementation at global, European and national/local levels. This will be made in collaboration with the future European Knowledge Centre for Biodiversity. The outcome will be an improved uptake of science-based knowledge and innovation by policy

[43] Mastrángelo et al. 2019. Key knowledge gaps to achieve global sustainability goals. Nature Sustain. https://www.nature.com/articles/s41893-019-0412-1

stakeholders on biodiversity and improved science-based support to policy-making. The Partnership will be particularly relevant to support the implementation and enforcement of the European Biodiversity Strategy for 2030 (including its ambitious Nature Restoration Plan) and to support sustainability issues more broadly (including the Farm to Fork strategy) as part of the European Green Deal. Particular efforts will be devoted to the perspective on risks associated to the implementation of insufficiently pre-evaluated approaches balanced against timely delivery of worthwhile initiatives that create change.

Working Area #4: Internationalisation of European R&I activities. The Partnership aims to strengthen collaboration between R&I programmes on biodiversity in Europe with those in non-ERA countries (such as Brazil, South Africa, etc). It will also promote strategic collaboration with IPBES, building capacity for engagement of Member States and Associated Countries in IPBES when relevant. Finally, the Partnership aims to align with the post-2020 global biodiversity framework and contribute to the goals of the CBD more generally, supporting the Subsidiary Body of Scientific, Technical and Technological Advice. It will also allow implementing R&I activities filling the specific needs of ORs and OCTs regarding biodiversity, for which collaboration with non-European countries is often crucial. The outcome will strengthen the role of Europe as global contributor of biodiversity research and the EU's biodiversity diplomacy – in particular its role in IPBES and CBD. It will inform how to achieve national and international biodiversity targets, the 2030 Agenda for Sustainable Development, the Paris Agreement ambition as well as commitments under other (biodiversity-related) conventions and international organisations (e.g. FAO).

Activities for these four Working Areas will be implemented in a collaborative and inclusive way by promoting stakeholders at all relevant levels and in all relevant sectors (first Transversal Area), and continuously communicating and promoting outreach and awareness raising (second Transversal Area). For each of these four Working Areas, a clear intervention logic will be used as presented in section 2.1. The way this intervention logic is implementing is detailed for each Working Area in section 2.1, also detailing operational (SMART) objectives and how intervention success will be evaluated using key performance indicators.

❖ ***Exit-strategy and measures for phasing-out from the Framework Programme funding***

This Partnership will build on the efficient structuring of the European Research Area in the biodiversity domain achieved by the BiodivERsA Partnership and on projects and programmes developed by the European Commission part of Horizon 2020, in particular on Nature-based solutions. To avoid duplication and maximize efficiency, the BiodivERsA Partnership will become dormant as from the date this European Partnership starts, while commitments under ongoing COFUND Actions (BiodivScen, BiodivClim, and possibly BiodivRestore) will be fulfilled as planned.

At this stage, the envisaged exit strategy of the European Partnership on biodiversity includes the setting up of a self-sustained network. All the members of the European Partnership on biodiversity could become member of this network. The formal agreement between members could be a Memorandum of Understanding signed by all Parties, similar to that set up by BiodivERsA in 2018. The financial plan would be evaluated with all members (possibility to use fees, have in-kind contributions, etc.) and with the EC.

Other exit-strategy options could also be explored together with all members and EC services. Indeed, the European Partnership would end in 2028, and many new opportunities might be considered at that time.

1.3 Necessity for a European Partnership on Biodiversity

Directionality : EU action in the area of biodiversity is based on Articles 4.2(e), 11 and 191 of the Treaty on the Functioning the EU, and stems from the EU's commitment to the United

Nations Convention on Biological Diversity and other Conventions. Both national- and EU-level actions aiming at same goals are indispensable to address the drivers and consequences of the loss of biodiversity as a public good. Indeed, these are driven by forces determined and acting at local and transnational scale, such as habitat fragmentation, air and water pollution, spread of invasive alien species and climate change. These direct drivers are underpinned by unsustainable production, trade and consumption patterns and technological developments, which can be addressed only if the different States and the EU jointly act towards the same objective. For instance, the implementation of the EU Birds and Habitats Directives and other environment-related EU legislation is key for halting biodiversity loss in the EU, and this requires efficient cooperation between the EU and its Member States, including for R&I biodiversity research efforts. Such cooperation implies a transnational, integrated and interdisciplinary approach. Through this Partnership, the efforts of EU and MS/ACs will go in the same direction, towards agreed objectives

Additionality: Neither single State, nor EU on its own has the capacity to address all biodiversity challenges on genetic, species and ecosystem levels. For instance, resources for biodiversity R&I programs are spread between European, national and local research programmers and funders (Fig. 5).

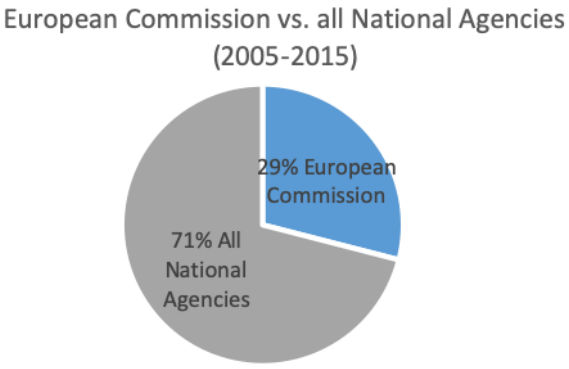

Figure 5: Relative importance of the financial contributions to biodiversity research funding through competitive calls over 2005-2015 by the European Commission and the national and local agencies considered in the BiodivERsA database (i.e. from 15 countries for which funding information is available in the BiodivERsA database at this stage). After Goudeseune et al. (2018)[44].

In addition, the capacity to monitor biodiversity changes largely relies on national and regional monitoring schemes implemented by multiple actors, which should be reinforced, harmonized and better integrated across Europe. Moreover, the actors allocating the resources for national biodiversity monitoring schemes, mostly Ministries of Environment and associated agencies with Non-Governmental Organisations (NGOs), often differ from those allocating resources for biodiversity R&I programs. A co-funded European partnership on biodiversity will provide an overarching platform that would foster seamless collaboration, including for R&I programs and monitoring schemes for which resources will be pulled between the European, national and local levels in an unprecedented manner. This will allow the sharing of knowledge, evidence and data among relevant actors (scientific community, public authorities, businesses, citizens, societal actors, NGOs, etc.) at appropriate levels and scales. This in turn will help and support policy makers, citizens, and businesses in taking adequate action at European, national and local level, and to better track progress towards EU and global commitments. Such a biodiversity partnership will engage MSs and ACs, and align national agendas in a consistent manner with Horizon Europe. This will build critical mass in capacity, resources and expertise that reaches far beyond the achievements of traditional actions through national or Framework Programmes. It should be noted that this

[44] Goudeseune L., Gambette P., Eggermont H., Heughebaert A. & Le Roux X. (2018). The BiodivERsA database: a mapping of research on biodiversity and ecosystem services in Europe over 2005-2015. BiodivERsA report. 60 pp.

Partnership will extend the cooperation much beyond R&I programs, including for instance support to and harmonization among monitoring schemes, science support to tools such as nature-based Solutions, science-policy interfacing, capacity building, and communication and outreach. The Partnership will also allow better use of research infrastructures and knowledge technologies transfer organisations. In addition, this partnership will allow for close collaboration with key science-policy platforms like the IPBES and IPCC, and feed biodiversity-related multilateral environmental agreements like the Convention on Biological Diversity beyond what is currently done by countries and the EU. Besides, increasing the international visibility of the European R&I community, the Partnership will help create additional capacity to tackle the biodiversity crises at all relevant levels and across borders. Such an ambitious co-funded European partnership under Horizon Europe is thus appropriate to shape the R&I ecosystem in Europe for tackling the biodiversity crisis we are facing.

The European Partnership tool will also provide the necessary longer-term perspective, as well as flexibility and capacity to integrate a wide range of activities that are needed to tackle the biodiversity crisis. Adaptive program management will be done in close cooperation with the relevant stakeholders and with associated partners/third parties in order to achieve specific objectives and targets in a timely manner. Overall, the co-funded European partnership tool is most appropriate to tackle a complex challenge such as biodiversity loss under the impact of a set of drivers of change, which requires updated science-based knowledge and methods, the best possible links between local/national/European/ international actors, reinforced links across R&I/monitoring schemes/policy, better synergies between R&I and actors relevant for the deployment of tools such as Nature-based Solutions, and the development of a range of activities complementing ambitious and systemic R&I programs to maximize the expected impacts.

1.4 Partner composition and target groups

The full members of the Partnership will include:

- Ministries in charge of R&I policy, and research funding agencies and foundations
- Ministries in charge of Environmental policy, and Environmental Protection agencies

Note that the intention for the membership of this ‘European Partnership’ is to consider Europe in a broad manner: all MSs and ACs will be welcomed. In addition, collaboration will be promoted with non/associated countries, including from other continents. The Partnership will also engage with other relevant Ministries, in particular Ministries of Agriculture and Fisheries and of Health, either directly for particular activities or through collaboration with other Partnerships mobilizing these Ministries.

Given the role of the European Commission, regular interactions will occur with DG R&I and DG ENV on the different aspects of the partnership. More generally, ad hoc links will be established with DGs involved in the Environmental Knowledge Community (i.e. DG ENV, DG CLIMA, DG R&I, DG ESTAT, DG JRC, DG AGRI and EEA) as well as others as needed, and the link (including the formal annual evaluation of the proposed work plan of the Partnership) will be made through a Steering Committee (for full explanation, see 3.3. Governance).

Other key actors for this Biodiversity Partnership will be (this will evolve during the Partnership’s life):

- **Third parties** receiving financial support to carry out R&I and other activities. The will be addressed via open calls for transnational projects, with priorities stemming from the

SRIA and being translated in annual priorities for calls topics with funding from national/regional programmes and the Union.

- **Key collaborators** will be mobilized outside the framework of funded projects. Key collaborators, including possible sub-contracted collaborators, so far include:
  - A few enterprises like Microsoft and Louis Vuitton Moët Hennessy, LVMH (for Working Areas #1 & 2) – ongoing discussions
  - The LIFE program (for Working Areas #1 & 2) – ongoing discussions
  - OPPLA (for Working Areas #2) – see Appendix 4
  - Alternet-EKLIPSE (mostly for Working Area #3 and capacity building) – see Appendix 5
  - Mapping and Assessment of Ecosystem Services, MAES (for Working Areas #1 & #3) – MAES representatives have co-designed this Partnership
  - The Joint Research Centre, JRC, of the European Commission and the European Environmental Agency, EEA, that will support a biodiversity knowledge centre to track progress to the targets under the EU 2030 Biodiversity and underpin biodiversity policy development (for Working Areas #1 & #3). The EEA is also responsible for developing the European Environment Information and Observation Network (EIONET)
  - Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services, IPBES (for Working Area #4) – using the approach detailed in www.biodiversa.org/1684/download
  - World Conservation Monitoring Centre Europe, WCMC Europe (transversal across Working Areas) – see Appendix 6

- Additional collaborators/stakeholders (indicative list, which will evolve during the Partnership's life)
  - The Intergovernmental Panel on Climate Change, IPCC
  - The Institute for European Environmental Policy, IEEP
  - The European Environmental Evaluators Network, EEN
  - European Regional Office of the International Union for Conservation of Nature, IUCN; its national committees and focal points, will be considered as possible important hubs for the Partnership's dissemination and collaborative-learning activities
  - The European Environmental Bureau, EEB (umbrella for nature conservation NGOs) and World Wide Fund for Nature, WWF Europe, Wildlife Conservation Society Europe (WCS EU)
  - European networks, such as the European Citizen Science Association, ECSA; the Consortium of European Taxonomic Facilities, CETAF; the Business@BiodiversityPlatform, etc.
  - A number of private companies
  - Scientific societies: The European Ecological Federation, EEF; the International Association for Ecology, INTECOL; the Society for Conservation Biology, SCB; the European Plant Science Association, EPSO; the Society for Ecological Restoration...
  - The Belmont Forum
  - Major Research Infrastructures for biodiversity, like the Global Biodiversity Information Facility, GBIF, through its European and national nodes; the European Long-Term Ecosystem Research network, LTER-Europe; the GEOBON network; the LifeWatch ERIC; the Analysis and Experimentation on Ecosystems ERIC, AnaEE; synthesis research centres for biodiversity located in Europe; etc.

Overall, the Biodiversity Partnership will extend the current membership of BiodivERsA as far as possible with the governmental organisations members of MAES and not already members of BiodivERsA, leading to a better presence of environmental ministries and agencies. In addition, the complementarity with the EC Framework Programme will be reinforced thanks to increased links to the European Commission services. The partnership will work in a participatory manner to include stakeholders, citizens and civil society organizations, and private sector in order to unlock implementation potential, accelerate and upscale short-term action, long-term access and use of relevant infrastructures, and facilitate experience exchange. Options for a more extensive engagement of citizens in research on biodiversity will also be promoted through encouragement of citizen science.

Last but not least, synergies will be promoted with relevant Missions and Partnerships created in the framework of Horizon Europe.

- Missions part of Horizon Europe: most missions recently created could be relevant, in particular the ones on "Soil health and food", on "Adaptation to Climate change including societal transformation", "Climate-neutral & smart cities" and "Healthy oceans, seas, coastal & inland waters". The European Partnership on biodiversity will regularly identify Partnership activities along with funded projects and their outcomes which would be relevant for these missions, and will feed the missions with this material. Meetings with the mission boards will also be aimed at, typically each year, to discuss the implication of the Partnership in the area covered by each these three missions in the context of inputs of other initiatives and Horizon Europe instruments.

- Other European Partnerships (the list could evolve with time):

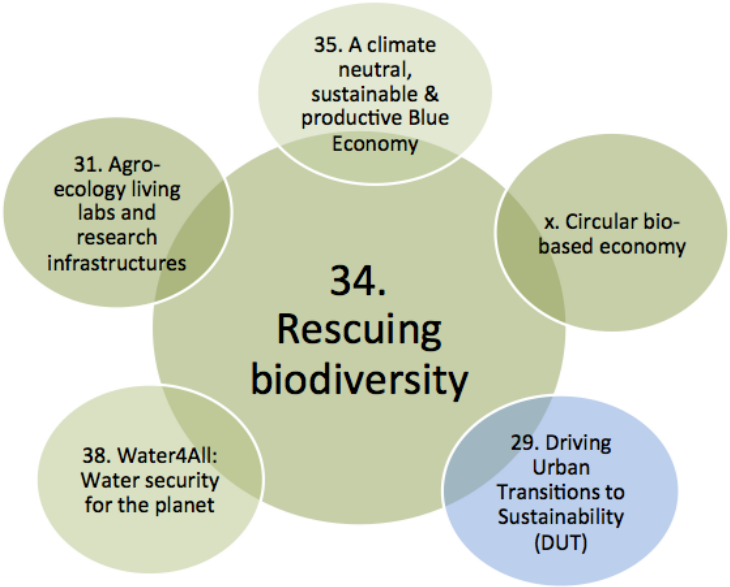

Figure 6: Main other European partnerships that would be invited to participate to the biodiversity forum set up by the Biodiversity Partnership, in close link to the EC, for promoting coherence and synergies in the biodiversity, ecosystem services and Nature-based solutions domain. Additional Partnerships could be invited as needed.

The Biodiversity Partnership will set up a mechanism (incentive) to ensure coherence and collaboration with other Partnerships, by leading – in close link to EC services – a forum with these Horizon Europe initiatives relevant for the biodiversity, ecosystem services and Nature-based solutions agenda (Fig. 6). This forum could be supported by a devoted CSA, and would ensure coordination and maximized synergies between the Biodiversity Partnership and other initiatives from Horizon Europe. At this stage, discussions have been engaged with precursors of four of these partnerships considered as priorities for collaboration (Table 1).

Table 1: List of the main candidate partnerships identified for collaboration

Candidate Partnerships	Types of activities	Expected results
Accelerating farm system transitions: **Agro-ecology living labs** and research infrastructures *	(i) organise regular meetings to exchange early on workplan development and identify possible synergies, (ii) mobilize the results from the Partnership on biodiversity to inform the Agroecology Livings Labs, and (iii) implement joint activities as appropriate	❖ R&I programmes/projects relevant to inform agroecology approaches ❖ relevant knowledge channelled to Living Labs through factsheet, briefs and other means
Circular bio-based economy**	(i) joint meetings to identify common interests between the two Partnerships and possible synergies, and (ii) implement joint activities as appropriate	❖ R&I activities to boost sustainable management and use of biodiversity by key private sectors ❖ Joint actions to mainstream biodiversity in business
Water4All: **Water security** for the planet	(i) organise workshop(s) to evaluate issues of common interest between the two Partnerships and identify possible synergies, and (ii) implement joint activities as appropriate	❖ R&I programmes/projects on freshwater biodiversity and associated ecosystem services (possible clustering approach) ❖ Joint activities regarding the restoration of aquatic biodiversity and ecosystems
A climate neutral, sustainable and productive **Blue Economy**	(i) workshop(s) to identify shared priorities regarding marine biodiversity protection, sustainable management of marine (socio)ecosystems, and marine/coastal Nature-based Solutions; (ii) implement joint activities as appropriate	❖ R&I programmes/projects informing management of marine (socio)ecosystems for stopping marine biodiversity loss (e.g. MPA schemes in relation with fisheries and other anthropogenic activities) ❖ Development and assessment of Nature-based Solutions like coastal ecosystem conservation to avoid coastal erosion
Sustainable, smart and inclusive cities and communities - **Driving urban transitions** to a sustainable future	(i) early, organise workshop(s) to evaluate issues of common interest regarding urban biodiversity and Nature-based Solutions, (ii) organise regular meetings to exchange on workplan development and identify possible synergies, and (iii) implement joint activities as appropriate	❖ A strategic plan, co-designed by both Partnerships, identifying common priorities and explaining how to address these ❖ Possibly implementation of a joint R&I programme on urban biodiversity and Nature-based Solutions, and increased urban blue and green infrastructure

* discussions will be engaged with the *Agroecology* CSA funded to prepare this collaboration

**discussions to be engaged

2 Planned Implementation

The partnership implementation is linked to Horizon Europe Strategic Program(s) and the respective Work Programs as well as EU Biodiversity Strategy to 2030, as well as to national biodiversity strategies and national bio-economy strategies. Supported monitoring activities in particular shall contribute to a common monitoring framework established under the new governance framework of the EU Biodiversity Strategy for 2030, and will reinforce existing and emerging national monitoring schemes.

2.1 Activities and expected outputs

In order to reach its objectives, the Partnership will deploy a wide range of activities, including – but going much beyond – joint calls for R&I proposals (Fig. 7), i.e.:

- **activities to regularly update the Partnership vision and strategy –** This corresponds to the production and regular update of a strategic R&I agenda according to the overarching objectives of the Partnership shared by all members; and the establishment of annual implementation plans indicating the type of activities to be implemented, topics for flagship programs to be implemented, Third Parties to be sub-contracted when relevant, stakeholders to be engaged, and resource allocation accordingly;
- **activities to promote and support R&I programs and projects across the European Research Area –** This will include launching ambitious joint calls to fund transnational R&I projects; implementing mobility schemes for example for young scientists or between academia and business; promoting the reuse of existing data/data sets and synthesis research; alignment with EU open data policies[45]; reinforcing the link between R&I projects and research infrastructure, observatories and demonstrators; promoting citizen science; and activities covering the specificities of ORs and OCTs;
- **activities to build capacity of R&I actors and increase the impact of R&I programs and projects, including science-based policy support –** This includes capacity building to help scientists facing the challenges of Open Science and of stakeholder engagement in particular; reinforcing and harmonizing biodiversity monitoring schemes across Europe, and their capacity to support policy; and activities to increase the brokerage and transfer of science-based knowledge, science-based support to policy evaluation and policy design, collaborative learning and awareness raising;
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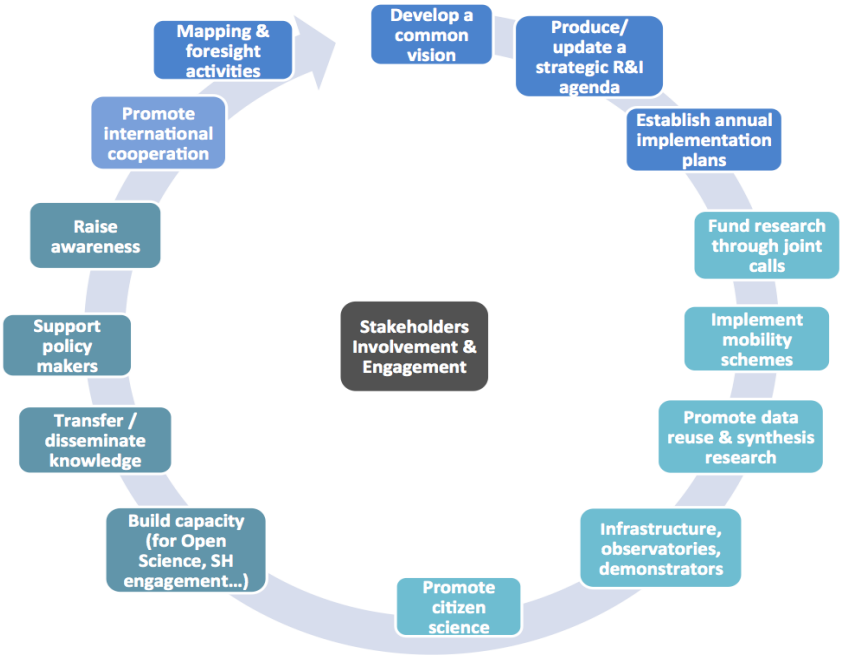


Figure 7: Range of activities that will be deployed by the European Partnership on biodiversity to effectively support achieving its objectives. Note that several activities contribute to different Working Areas.

-**activities to reinforce the excellence, visibility and impact of European R&I at the international level –** This will include the promotion of international collaboration; activities covering the specificities of ORs and OCTs; pro-active engagement in IPBES activities; support to the implementation of the post-2020 global biodiversity framework.

[45] http://data.europa.eu/euodp/en/data/

This spectrum of activities will be used in an adequate manner within each Working Area of the Partnership. For each Working Area, we present below the overall intervention logic and implementation plan, detailing the relevant activities and expected outputs of the Partnership. We also propose Key Performance Indicators (KPIs). At this stage, these KPIs are presented without specific numerical thresholds (with noticeable exceptions, e.g. the intended level of resources mobilized through the Partnership). Indeed, the exact activities and quantified KPIs will be defined in each annual implementation plan and flagship program agreed on year after year. Note that distinction between the four Working Areas is not clear-cut, as several activities contribute to different areas (see below).

For Working Area #1 of this Partnership, the SMART objectives are to build a network of monitoring schemes across Europe in close link to the R&I ecosystem; to develop joint programming for R&I on biodiversity over the whole ERA; and to implement more systemic R&I programs addressing the biodiversity dynamics, drivers of changes and levers of actions. Both direct and indirect drivers will be taken into account, as well as the spillover effects – negative and positive – of policies, regulations and solutions applied in Europe for biodiversity in other regions, and some of these programmes will thus contribute to the three other Working Areas. Its logic of intervention is summarised in Fig. 8. The expected outputs are harmonization of methods and data for biodiversity monitoring; better alignment for R&I on biodiversity between countries based on a common R&I agenda and shared priorities; generation of major scientific breakthroughs regarding biodiversity loss, its multiple and interacting drivers, and ways to reduce threats to biodiversity; implementation of R&I programs articulated with conservation actions; and efficient uptake of R&I program results by stakeholders. The ambition is to promote collaboration between the biodiversity research community (natural and social sciences) and other communities (e.g. climate change scientists, computer and data scientists, etc.) to generate major advances. Overall, the intended impacts are:

- reinforced and coherent monitoring schemes in the EU
- better knowledge on biodiversity changes, its drivers and impacts
- science-based actions to reduce threats to biodiversity
- science-based conservation/restoration actions

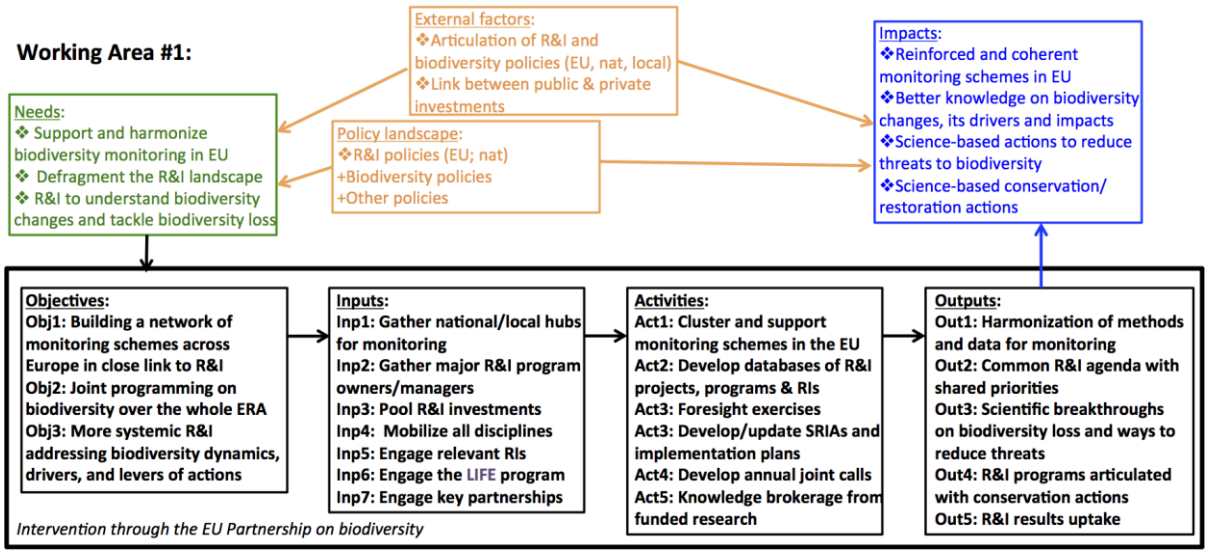


Figure 8: Schematic representation of the logic of intervention, including main activities, planned for the Working Area 1 of the European Partnership on biodiversity.

For this Working Area, the following **key inputs** are identified (Fig. 8):

- Gathering the main national and local hubs for biodiversity monitoring. It is anticipated that the situation will strongly differ between countries and that we will face a highly heterogeneous landscape. The work will benefit from collaboration with

the CSA recently funded by the EC on biodiversity monitoring.

- → KPI#1.1: Number (incl coverage) of national and local hubs for biodiversity monitoring engaged by the Partnership.

- Gathering major R&I program owners and managers across a broad range of countries and in ORs and OCTs. This includes both R&I policy makers and R&I funders (typically Ministries of Research and sometimes of Environment, R&I funding agencies and foundations) and environmental policy makers and implementers (typically Ministries of Environment and environmental protection agencies) to promote co-construction of strategies and programmes and actions between all these actors, thus counteracting the current fragmentation that exists with the ERA.
  → KPI#1.2: Number of R&I Ministries / agencies / foundations, and of Environment Ministries / agencies active members the European Partnership

- Pooling R&I investment in support of joint programming. The ambition for this 7-year Partnership is to launch 6 co-funded joint calls, each gathering on average 29.57 Mio€ in cash (total cost of 44.36 Mio€) to support R&I, including 20 Mio € in cash from national resources –eligible to EC co-funding; plus 1 Mio € participation of countries non eligible– plus 8.57 Mio € in cash from the EC top-up. The total in-cash investment target is thus (6 x 29.57), that is 177.4 Mio€ for competitive research funding (representing 266.2 Mio € in total cost). Further, we also envisage possible support of at least one R&I program by private philanthropy.
  → KPI#1.3: Level of R&I investment (in cash; in kind) – Target: 177 Mio € in cash and 266 Mio € in total cost

- Mobilization of all relevant scientific domains and disciplines. Given the nature of the biodiversity crisis and of forefront issues for biodiversity R&I, particular attention will be paid to co-design the R&I programs by mobilizing all relevant sociological research domains, including sociology, economy, geography, archaeology, behavioural sciences, law sciences, philosophy, etc.
  → KPI#1.4: Level of participation and success of social science teams in R&I programs developed by the Partnership

- Engagement of the relevant Research Infrastructures (RIs) from the ESFRI landscape and beyond, in particular those with strong biodiversity focus as classified by the ENVRIplus cluster project (LTER-Europe, LifeWatch, DiSCCo, ANAEE, ELIXIR, INTER=ACT, etc.), the GBIF, GEOBON, and biodiversity synthesis research centres to promote synergies between the R&I programs and the network of monitoring schemes across EU developed by this European Partnership and the biodiversity observations and virtual services for biodiversity research supported by these RIs. Several RIs are in the beginning of their design or negotiation process, or currently expanding/revising their service portfolio. This offers opportunities for channelling prioritized requirements from research/user community into the process.
- → KPI#1.5: Number of activities and of funded projects involving RIs and e-RIs, and nature of the involvement

- Collaboration with the LIFE program to complement and articulate the R&I programs developed by this European Partnership with the programs developed by LIFE which are more focused on conservation/restoration and action on the ground. Such engagement could take place also in the context of LIFE Strategic Nature Projects which aim to mainstream biodiversity objectives and priorities into other policies.
- → KPI#1.6: Concerted actions initiated between the European Partnership and LIFE

- Engagement with other European Partnerships (and missions). The rationale for engagement will be to better cover issues at the crossroads between biodiversity and other challenges or sectors, without jeopardizing the capacity of the European Partnership on biodiversity to develop and implement a coherent and comprehensive

strategy. A strategic plan of engagement will be determined as soon as the first European Partnerships will be selected.

- KPI#1.7: Joint or concerted actions between this European Partnership and other Partnership(s) and Mission(s), with investment by other initiatives

Based on these inputs, the **main activities and expected outputs** of the Partnership under this Working Area #1 will be:

- To promote clustering, build capacity and provide support and additional resources to national/sub-national biodiversity monitoring schemes in the EU, reinforcing the links with the European R&I ecosystem. This will allow harmonization of the methods used and data acquired by these monitoring schemes, thus reinforcing their capacity to inform stakeholders and policy makers (link to other Working Areas).
- KPI#1.8: Level of resources mobilized (objective: >100 Mio €). Number of biodiversity dimensions/taxa for which methods and data have been harmonized.

- To develop (and update) a database of R&I projects and programs for the European Research Area, building on and expanding the BiodivERsA database[46]; and to produce a database of research infrastructures based on the pilot recently initiated by BiodivERsA. The latter will build on the ESFRI 2018 Roadmap, and products generated by MERLIN (Europe) and RISCAPE (global), as well as ENVRIplus and ExpEER.
  KPI#1.9: Temporal and geographical coverage of the new database for research funding, programs and projects as compared to 2019 status
  KPI#1.10: A database accessible online for biodiversity research infrastructures (national and European)

- To conduct foresight activities and identify emerging issues regarding biodiversity status, dynamics and trends, drivers of changes and levers of actions. The partnership would support upcoming requests from the Environmental Knowledge Community. This could be performed by the Partnership itself and when relevant in collaboration with initiatives like the Biodiversity Knowledge Center, EKLIPSE and horizon scan exercises.
- KPI#1.11: Foresight reports produced on key emerging issues, and mobilization of other initiatives/actors to do so

- To develop and regularly update a common vision (every 2-3 years) and implementation plans including flagship programs to be launched (every year) for this European Partnership, based on major research gaps and needs (but also taking into account the innovative potential of bottom-up research), collaboration with the IPBES TSU on Knowledge and Data, and a dialogue with relevant actors in the participating countries and the EU programmes and services, in particular with Horizon Europe.
  KPI#1.12: Capacity building for the setting up of national mirror groups in countries part of the Partnership on biodiversity (voluntary basis) and support to these mirror groups as needed
  KPI#1.13: A Strategic R&I Agenda regularly updated by mobilizing all Partnership members, EC services and diverse stakeholders; annual implementation plans

- To develop and implement annual joint calls for R&I proposals in complementarity to Horizon Europe, able to promote more systemic research addressing the most pressing issues in the field of biodiversity. All the data on proposals and selected projects for all calls launched by this partnership will be integrated in eCorda (and Cordis).
  KPI#1.14: A target of 6 joint calls implemented. For each joint call, a digest of the call profile produced at the start of the research projects funded, including amounts, participating countries, success rates, disciplines and stakeholders mobilized, and

[46] https://www.biodiversa.org/database

brief presentation of projects

- To ease research results uptake from the projects funded through these joint calls
  → KPI#1.15: One brochure produced per call after projects end profiling the range of products obtained based on the knowledge and innovation derived from funded research, delivered to policy stakeholders and to other stakeholders

For Working #2 of this Partnership, whose SMART objectives are to co-develop R&I activities on Nature-based Solutions with relevant stakeholders (in particular practitioners, land planners, businesses, local authorities and citizens); to reinforce the knowledge base to make Europe a global leader for the development of Nature-based Solutions; and to help better accounting and valuation of biodiversity in private sectors, the logic of intervention is summarised in Fig. 9.

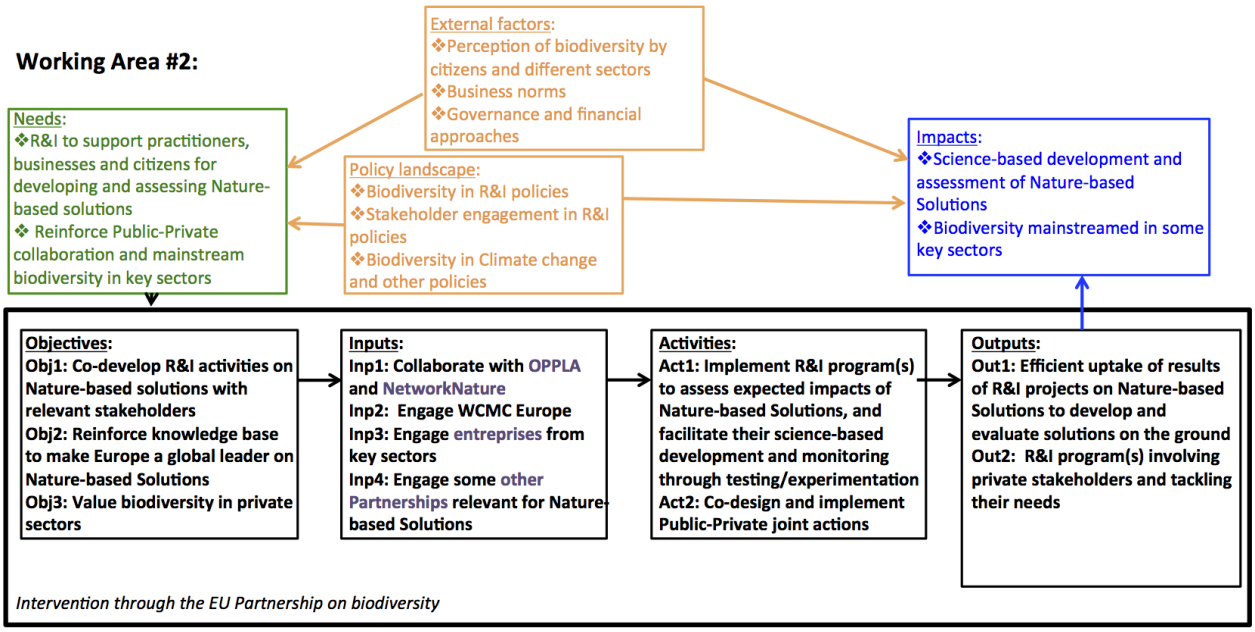


Figure 9: Schematic representation of the logic of intervention, including main activities, planned for the Working Area 2 of the European Partnership on biodiversity.

Overall, the intended impacts of Working Area #2 are:

- science-based development and assessment of approaches as Nature-based Solutions
- mainstreaming of biodiversity in key sectors with better accounting and valuing of biodiversity

For this Working Area, the following **key inputs** are identified (Fig. 9):

- Collaboration with the OPPLA platform (EU Repository of Nature-based Solutions which provides a knowledge marketplace for stakeholders) to increase the uptake of the knowledge derived from the projects funded by the European Partnership. Discussions with OPPLA have already allowed a first framing of the type of collaboration to be established (see Appendix 4). Similarly, this Partnership will benefit from engagement in the European multi-stakeholder dialogue platform for Nature-based Solutions (NetworkNature), in order to establish stronger links with stakeholders in the field of Nature-based Solutions and synergies between R&I and demonstrators on Nature-based Solutions.
  → KPI#2.1: Resources and products associated to this Partnership related to ecosystem services and Nature-based solutions effectively channelled towards stakeholders through the OPPLA platform
  → KPI#2.2: Joint actions between the NetworkNature platform and the European

Partnership regarding Nature-based Solutions

- Engagement with WCMC Europe to develop tools to analyse and show economic sector impacts and dependence on nature
  → KPI#2.3: Concerted actions between the European Partnership and WCMC Europe
- Engagement of enterprises from key sectors. The intention is to join forces to promote synergies or even implement joint actions between the European Partnership and enterprises in order to address issues relevant for these private actors. The intention is to engage with different sectors that have a strong impact on biodiversity (promoting a cross-sectoral approach as needed) but also to identify emerging sectors that will impact / be impacted by biodiversity and to proactively engage with them.
- → KPI#2.4: Concerted or joint actions initiated between the European Partnership and enterprise(s) and/or networks/hubs like the EU B@B platform
- Engagement with other European Partnerships relevant for Nature-based Solutions. The rationale for engagement will be to better cover issues at the crossroads between biodiversity and other challenges or sectors. Two partnerships are already identified as priorities here, i.e. the Partnerships on Agroecology and on Urban Transitions.
- → KPI#2.5: Joint or concerted actions between this European Partnership and relevant partnerships, with co-investment with these other initiatives
- Engagement with the EU Executive Agencies like EASME managing the FP7, Horizon 2020 and the upcoming Horizon Europe projects – to be discussed
- → KPI#2.6: Joint or concerted actions between this European Partnership and the EU relevant Executive Agencies - to be discussed

Based on these inputs, the **main activities and expected outputs** of the Partnership under this Working Area #2 would be:

- To develop (part of) R&I program(s) and implement them to support the development and deployment of Nature-based Solutions for tackling pressing societal issue(s) while improving the status of biodiversity. This will also include traditional management systems. Such R&I programs will help assessing the expected impacts of Nature-based Solutions, and facilitate their science-based development and monitoring through testing and experimentation. The expected output is efficient uptake of results of R&I projects on Nature-based Solutions to develop and evaluate solutions on the ground.
  → KPI#2.6: Success stories demonstrating the uptake of science-based knowledge and innovation produced through R&I projects and activities to develop Nature-based Solutions on the ground
- To develop some specific Public-Private joint actions, including R&I program(s), that involve private stakeholders and tackle their needs from the early beginning of the design of applications
  → KPI#2.7: R&I program(s) implemented through a Public-Private joint action and allowing to tackle key issues regarding biodiversity for both public and private actors

For Working Area #3, the SMART objectives are to efficiently engage policy stakeholders in R&I programs, and to increase science support to policy makers for the evaluation, development and implementation of biodiversity policies and interventions – accounting more generally for policy areas affecting biodiversity. Its logic of intervention is summarised in Fig. 10.

Overall, the intended impacts of Working Area #3 are:

- improved uptake of knowledge and innovation by policy stakeholders on biodiversity

- efficient use of knowledge derived from biodiversity monitoring schemes across Europe by policy makers
- and ultimately, better policy-making for tackling the biodiversity crisis

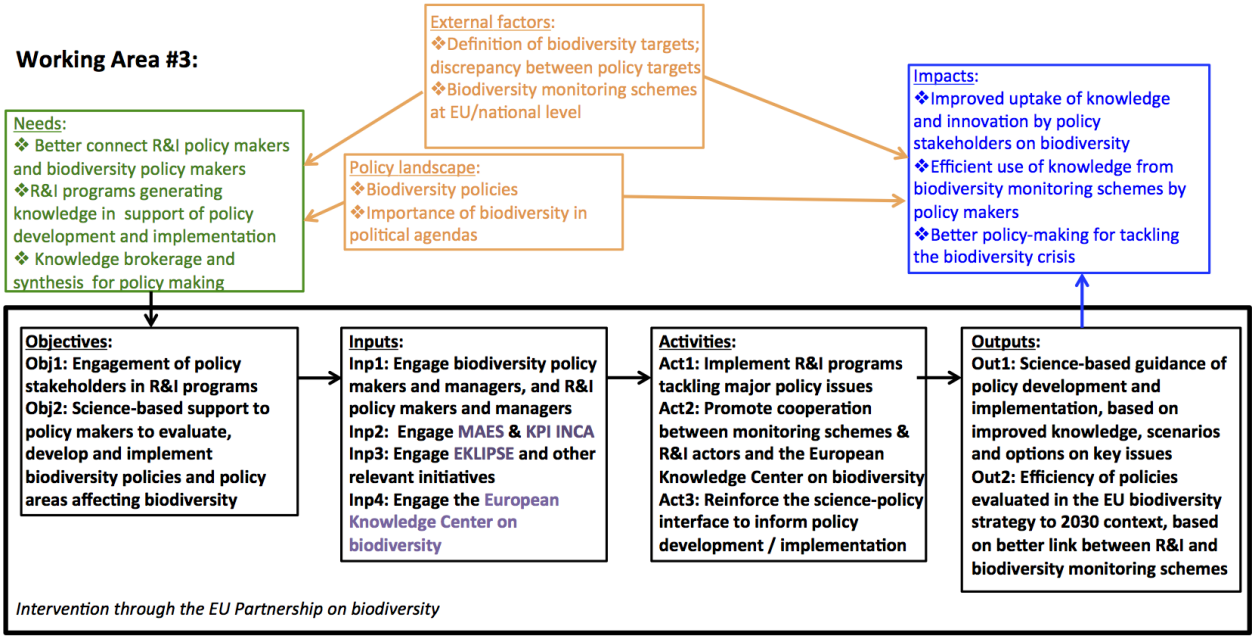


Figure 10: Schematic representation of the logic of intervention, including main activities, planned for the Working Area 3 of the European Partnership on biodiversity.

For this third Working Area, the following **key inputs** are identified (Fig. 10):

- Co-involvement within the Partnership of R&I policy makers and R&I program managers relevant for the biodiversity domain on the one hand, and of biodiversity policy makers and environment protection agencies on the other hand, in order to increase the interactions between these different actors at local/national/regional level.
  → KPI#3.1: Number of Ministries in charge of environment policy and Environment Protection Agencies involved in the Partnership, level of their engagement
- Engagement with MAES, KIP-INCA, MAIA and We Value Nature. These have begun to provide guidance and a baseline for research and methods on ecosystem condition and ecosystem services. They can help define the research needs to implement an EU nature restoration action plan across countries, while standards and harmonization are key to compare restoration efforts of different countries. The European Partnership will also promote engagement with MOVE and MOVE ON projects for ORs and OCTs. Engagement with WCMC Europe is also envisaged in this context.
  → KPI#3.2: Level of collaboration (number and type of activities) with MAES, KPI INCA, MAES and We Value Nature.
- Collaboration with ALTER-Net/EKLIPSE (see Appendix 5) and other initiatives such as IEEP, IUCN European Regional Office, European section of the Society for Conservation Biology, European Environmental Evaluators Network, and WCMC Europe (see Appendix 6) for supporting evidence-based policy on biodiversity, ecosystems services, natural capital accounting, green infrastructure and Nature-based Solutions. The European Partnership could benefit from the skills gathered by these initiatives which would be engaged as key collaborators or activated by the Partnership as third parties as needed.
  → KPI#3.3: Requests for knowledge synthesis or analysis of emerging issues regarding questions of policy and/or societal concern made to Alter-NET/EKLIPSE and other

initiatives

- Engagement of the future European Knowledge Centre on biodiversity / European Environment Agency, as efficiently channelling biodiversity information and data (link to Working Area 1) to this centre will be required to increase science-based support to policy making.
- KPI#3.4: Level of collaboration (number and type of activities) with the European Knowledge Centre on biodiversity and ecosystem services, JRC and EEA

The **main activities and expected outputs** of the Partnership under this Working Area #3 will be:

- To reinforce the knowledge basis on important policy issues through R&I programs particularly relevant for policy stakeholders. This will require co-design of R&I programs between biodiversity policy makers and R&I policy makers and program managers.
  KPI#3.5: Improved knowledge on key issues for policy makers (success stories derived from the R&I programs implemented)
- To provide better support to EU policy makers by promoting the link between biodiversity monitoring schemes and R&I actors across Europe (Working Area 1) and the European Knowledge Center on biodiversity. In particular, this will imply collaboration with MAES.
  KPI#3.6: Level of cooperation reached between biodiversity monitoring schemes and R&I actors across Europe and the European Knowledge Center on biodiversity
- To reinforce the science-policy interface to inform policy development and implementation based on science-based standards, options, scenarios and guidance for policy stakeholders.
  KPI#3.7: Production of science-based standards/guidance/scenarios/options for policy development and implementation (national and European level)
  KPI#3.8: Efficiency of biodiversity-related policies evaluated in the context of the European Green Deal (success stories demonstrating the importance of the link between policy makers, R&I actors and biodiversity monitoring schemes)

For Working Area #4, the SMART objectives are to increase the collaboration with non-ERA countries, to reinforce the collaboration between the European R&I actors on biodiversity and the IPBES, and to better align R&I joint programming on biodiversity with the UN Sustainable Development Goals agenda and post 2020 global biodiversity framework. The logic of intervention is presented in Fig. 11.

Overall, the intended impacts of Working Area #4 are:

- strengthened EU's biodiversity diplomacy intelligence and role of Europe as global actor for biodiversity research
- R&I in Europe efficiently supporting SDGs, IPBES, CBD, other relevant MEAs (e.g. UNFCCC) and international organisations (e.g. FAO)
- R&I supporting specific needs for biodiversity conservation and sustainable development in ORs and OCTs

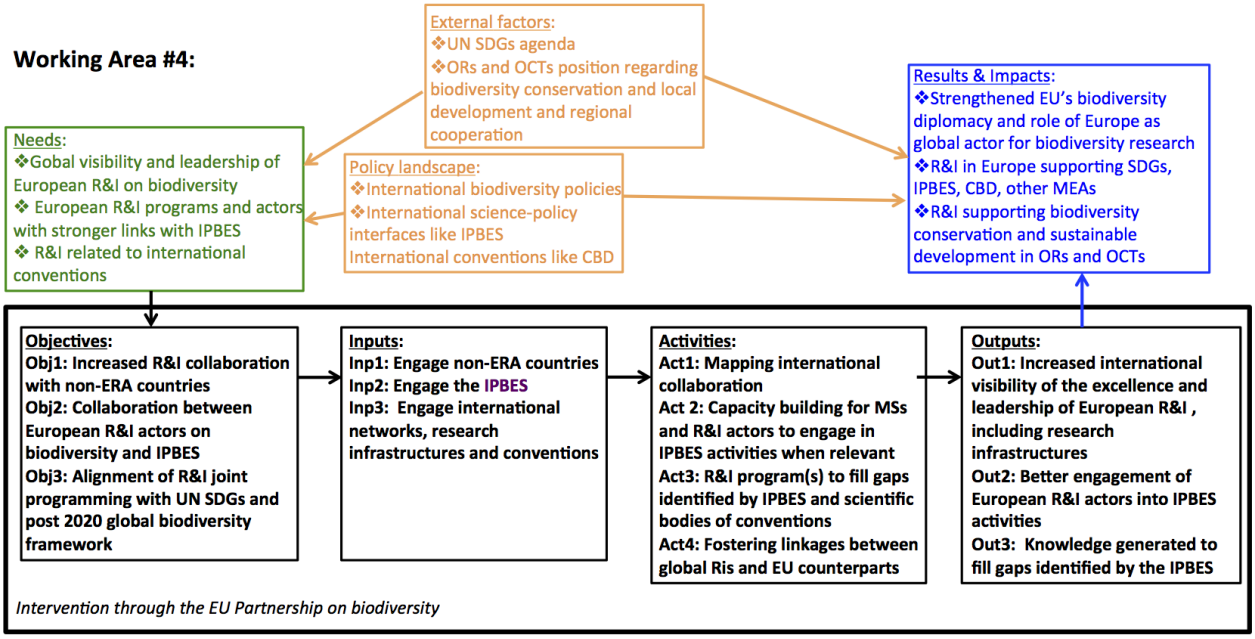


Figure 11: Schematic representation of the logic of intervention, including main activities, planned for the Working Area 4 of the European Partnership on biodiversity.

For this Working Area, the following **key inputs** are identified (Fig. 11):

- Engagement with relevant non-ERA countries in the R&I programmes implemented by the Partnership
  → KPI#4.1: Relevant ministries and agencies of non-ERA countries engaged in activities, including joint calls, of the European Partnership
- Strong mutual engagement with the IPBES, around the four main functions of IPBES (assessing knowledge, knowledge generation, policy support, capacity building).
  → KPI#4.2: Concrete activities and products involving collaboration between the European Partnership and the IPBES
- Engagement of international networks and organisations (e.g. Future Earth, UNEP-WCMC, IUCN), international RIs (e.g. GBIF, COOP+, ILTER, GERI) and their European counterparts, and relevant international conventions.
- → KPI#4.3: International networks and RIs (or their European counterparts) and international conventions actively engaged in activities of the European Partnership

Based on these inputs, the **main activities and expected outputs** of the Partnership under this Working Area #4 will be:

- To map international collaboration between research actors from the ERA and from other regions on key priority topics.
  → KPI#4.4: Reports on the mapping of international collaboration between scientists from the ERA and other regions on key priority topics for the biodiversity domain
- To build capacity for MSs and R&I actors to engage in IPBES activities when relevant.
  → KPI#4.5: Evaluation of the added value of the capacity building activities implemented by the Partnership by States benefiting from this capacity building
- To implement R&I program(s) to fill major gaps identified by IPBES and scientific bodies of conventions.
  → KPI#4.6: Science-based knowledge generated to fill gaps identified by the IPBES and scientific bodies of conventions (success stories)

- To foster linkages between biodiversity RIs developed at global scale and their European counterparts. Several European RIs have leading or co-leading roles in global initiatives (e.g. LifeWatch ERIC in COOP+, eLTER in ILTER and GERI). The European Partnership on biodiversity could help impact global developments and – reversely – feedback to the European RI design and implementation.
  → KPI#4.7: Reinforcement of the links between biodiversity RIs developed at global scale and their European counterparts (success stories)

For the transversal Working Area on stakeholder engagement, a range of activities will be implemented to build capacity of the research community for stakeholder engagement (and of stakeholders to engage in research activities):

- To set up an Advisory Board and enlarged stakeholder Board for the Partnership able to engage throughout the whole process of the Partnership related to developing and implementing a set of coherent, relevant and impactful activities; this will include attendance of stakeholder representatives to General Assembly meetings.
  → KPI#5.1: Tracing back the inputs of the Advisory Board and of the enlarged stakeholder Board in the Partnership activities and products
- To reinforce the capacity of R&I actors regarding the engagement of stakeholders in their research activities, including engagement of policy stakeholders, of citizens and of businesses. This is fundamental since the R&I individuals and teams are the first entities that need to engage stakeholders (biodiversity researchers can have very good links with individual local and national stakeholders), whereas the European Partnership per se will help capacity building for engagement with European and international stakeholders (that researchers often strive to engage). This will require the production of guidance documents as needed and the organisation of training sessions and workshops gathering academia and targeted stakeholders.
  → KPI#5.2: Handbooks, workshops and training sessions devoted to stakeholder engagement (possibly organised with other initiatives)
  → KPI#5.3: Number and profile of public and private stakeholders involved in funded R&I projects, and level and added value of their engagement (success stories)
- To promote citizen science and support citizen science projects.
  → KPI#5.4: Number of citizen science projects funded and their main outcomes

Based on previous experience from BiodivERsA, three-years projects are often too short to adequately engage with stakeholders and obtain tangible outcomes, in particular regarding the use of research results. We will therefore make efforts to shape the R&I programs and implement them in a way to tackle this issue (the 7 plus 3 years perspective given for this European Partnership is an advantage here).

For the transversal Working Area on communication, outreach and capacity building, a range of activities will be implemented to provide high visibility to the activities and impacts of the Partnership. In particular, a e-platform acting as a 'European lighthouse for R&I on biodiversity' will be put in place to highlight the positive results and impacts of the Partnership for researchers and research institutes, practitioners, companies, policy makers, media and citizens. This will also contribute to explain in an accessible way the processes and relationships that take place between the natural environment and society/economy, which is needed for a change in public awareness and dissemination of knowledge about the importance of biodiversity.

The planned activities include:

- To establish the e-platform acting as 'lighthouse[47] for the European Research Area on biodiversity', explaining the role of European R&I for the protection, restoration and sustainable management of biodiversity and for the development of Nature-based Solutions. This will largely be based on success stories demonstrating concrete impacts of biodiversity R&I tackling concrete societal needs across Europe.
  - KPI#5.1: E-platform established
  - KPI#5.2: Number of visitors of this 'lighthouse', and sections of the e-platform visited

- To demonstrate to the research community what is brought in by the Partnership, in term of capacity building, research funding, collaboration opportunities, increased visibility, etc. More generally, the objective will be to show how researchers and research institutes and associations can both contribute to and benefit from the Partnership and how they can actively influence priority setting.
  - KPI#5.3: Figures and facts demonstrating the added value of the Partnership for the research community

- To demonstrate to relevant stakeholders the impact of the Partnership, in term of decisive science inputs for biodiversity conservation and restoration and for the development of tools such as Nature-based Solutions. The objective will also be to show how a broad range of stakeholders are actively engaged in all the Partnership activities in a transparent manner, including in research projects, and how they contribute to and benefit from the Partnership. In particular, success stories will demonstrate in a tangible and concrete way the impacts and benefits of pan-European R&I programs and other activities, and their relevance and achievements that improve the daily lives of European citizens in practice.
  - KPI#5.4: Figures and facts demonstrating the added value of the Partnership for a broad range of stakeholders, including practitioners, NGOs, businesses, citizens and policy stakeholders
  - KPI#5.5: Success stories exemplifying the engagement of citizens, practitioners, businesses, etc. in R&I on biodiversity, and demonstrating how uptake of research results can make a difference for them
  - KPI#5.6: Number of prizes "for excellence and impact" – each in the format of a video –showcasing the achievement of partnership-funded projects that have produced excellent science with concrete impacts for policy and/or society

- To promote and highlight Open Science. The objective will be to increase the use of best practices regarding Open Science principles within the biodiversity research community, and to communicate on this approach and its benefits for stakeholders.
  - KPI#5.7: Capacity building tools provided to share best practices
  - KPI#5.8: Figures and facts demonstrating the increased use of Open Science principles by the European research community, and its benefits for research results uptake by stakeholders.

- To produce tools to raise awareness about biodiversity threats and science-based solutions offered by biodiversity to tackle different societal challenges. Co-designed approaches between researchers and professionals from the media, including social media, will be promoted for two-way capacity building.
  - KPI#5.9: Establishment of a European hub for communication between the European biodiversity R&I community and the media
  - KPI#5.10: Two-way capacity building events between the media and scientific experts (how to better communicate, how biodiversity can 'sell' in the media? Etc.)

- To train young scientists through adequate capacity building and summer schools.

[47] See the ERAC document 'Outline for a policy approach on ERA Lighthouses' https://era.gv.at/object/document/4875/attach/Item_4_1_Outline_ERA_Lighthouses.pdf

The European Partnership could collaborate with AlterNet in the context of co-defined summer schools targeting young scientists (PhD students or Doctors less than 2 years after their PhD).
 KPI#5.11: Number and outputs of training events, webinars, and summer schools organised by the Partnership (some co-organised with AlterNet)

All the activities presented above per Working Areas will actually often contribute to the objectives of several Working Areas. The methodology for monitoring the achievement of impacts will involve (i) achievement evaluation for individual projects funded through specific programs, using the methodology developed by BiodivERsA to quantify and qualify their possible academic and non academic impacts[48], and (ii) and achievement evaluation at overall flagship program and Partnership level, expanding the methodology developed by BiodivERsA[49] but including new facets like monitoring and support to policy-making.

Overall, this partnership will implement a more ambitious range of activities than usually developed in previous joint programming approaches. This portfolio of activities is still feasible because the European Partnership tool will roll out these activities over a period of 7 years. However, prioritization in terms of timing and investment for these activities will be needed. At this stage, the vision is that priority activities under the Working Areas should all contribute to the five overarching objectives of the Partnership. This will guide prioritization of activities and resource investment, year after year when determining the annual workplans of the Partnership. Further, our approach will be to launch a total of 5 to 7 flagship programmes over 7 years, each addressing a particular biodiversity issue and gathering a specific portfolio of activities relevant to the issue addressed. This will allow sufficient focus of the Partnership's activities to make a difference for a number of issues while ensuring efficiency of the approach. Concurrently, it will be important to clearly define the many areas in which the Partnership will not be able to invest. For instance, whereas education is highly important and awareness raising for the young generation highly important to reverse biodiversity loss, the Partnership members do not consider this is the role of the Partnership to develop actions in this area.

2.2 Resources

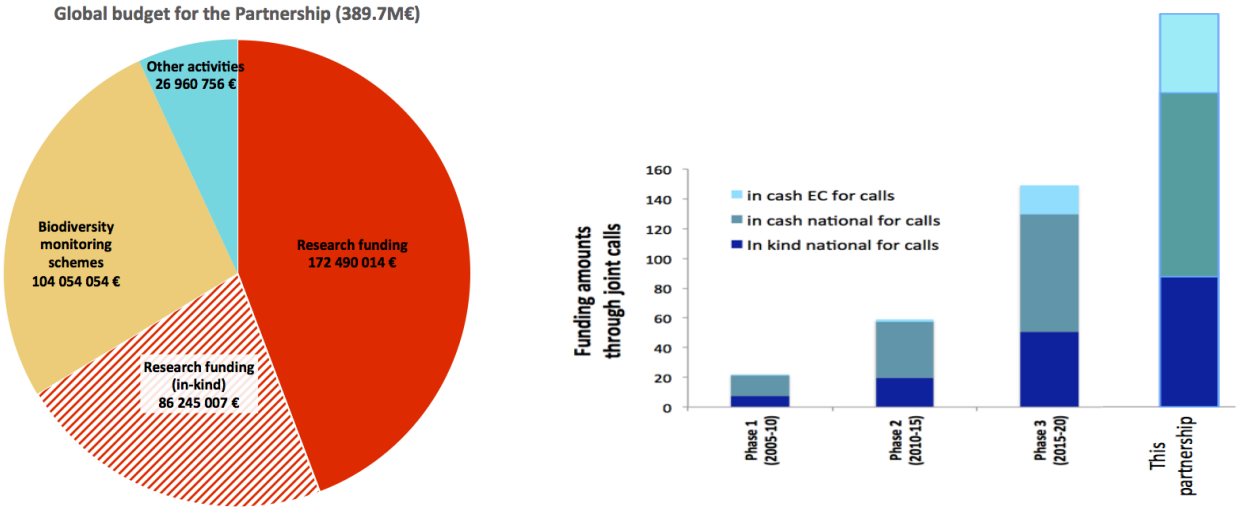
The principal resources required for delivering on the objectives of the Partnership will be in terms of financial contributions from countries and regions (mainly funding of R&I programmes/projects, and funding of biodiversity monitoring activities with link to R&I), in-kind contributions to carry out the tasks and actions undertaken (positions paid by partners and devoted to some activities of the Partnership; national mirror groups specifically set up for this Partnership; etc.), as well as resources such as access to research infrastructures.

A large part of the contributions to the Partnership activities will come from the Ministries, agencies and foundations in charge of R&I policy and funding, both in cash and in-kind. In addition, there will be contributions by Ministries and agencies in charge of biodiversity policy that support (sub)national biodiversity monitoring schemes, in cash and/or in-kind.

The total budget of the Partnership is currently estimated to be 390 Mio €, with 259 Mio € (total costs) for research funding, 104 Mio € for biodiversity monitoring activities, and 27 Mio € for other activities (Fig. 12). This corresponds to a high increase in the resources allocated to joint R&I programmes across the ERA as compared to the previous period (Fig. 12). The credibility of the foreseen amplitude of the huge investment in research funding is

[48] https://www.biodiversa.org/893
[49] https://www.biodiversa.org/1557

supported for instance by the excellent track record reached by BiodivERsA through implementation of large international joint calls[50].



projects aimed at through this Partnership. Contribution to other activities will also be much higher in the Partnership than BiodivERsA1, 2 & 3.

Mobilisation of key analytical functions and capacities within national agencies and institutions, contributing to activities such as mapping, horizon scanning and scoping exercises, will form part of the in-kind contributions to Partnership achievements.

The European Commission has also a central role in contributing to the Partnership, both in an advisory capacity with in-kind skills regarding policy-level requirements and uptake, as well as co-funder of calls and other actions. In principle, the EC would contribute 30% of the co-funded calls and an additional at least 30% of the costs of the other activities channelled by the Partnership members.

In addition, the private sector may contribute, either as a direct co-funder of research projects through philanthropic contributions, through an in-kind advisory capacity and by granting access to business sector platforms and networks (not included in the figures for the estimated budget at this stage).

More particularly, the share of the costs (in cash and in kind) for activities other than research funding and biodiversity monitoring (27 Mio €) is presented in Fig. 13. 13% of these costs correspond to support to the operational team (secretary) and Coordination Team (Chair and Coordinator, and Vice Chairs); 16% to management and coordination costs (including networking costs for all partners); 23% to joint call management (in particular call secretariat, and meetings of the call steering committees and evaluation panels); 11% to additional activities related to biodiversity monitoring and trends analyses; 6% to activities related to mapping, foresight and priority setting; 11% to stakeholder engagement (but note that more resources on this item will be allocated through the funding of projects that will engage stakeholders); 8% to communication and outreach activities (here also, part of this aspect will occur at the level of funded projects – not included here); and 4% to promote the engagement of collaboration beyond Europe (funding of research collaboration through joint calls not included here). A reserve corresponding to 8% of these costs will also be created as a source of flexibility.

[50] Blery C., Lemaitre F. & Le Roux X. (2018). BiodivERsA main achievements for research on biodiversity, ecosystem services and Nature-based Solutions over 2008-2018, 52pp.

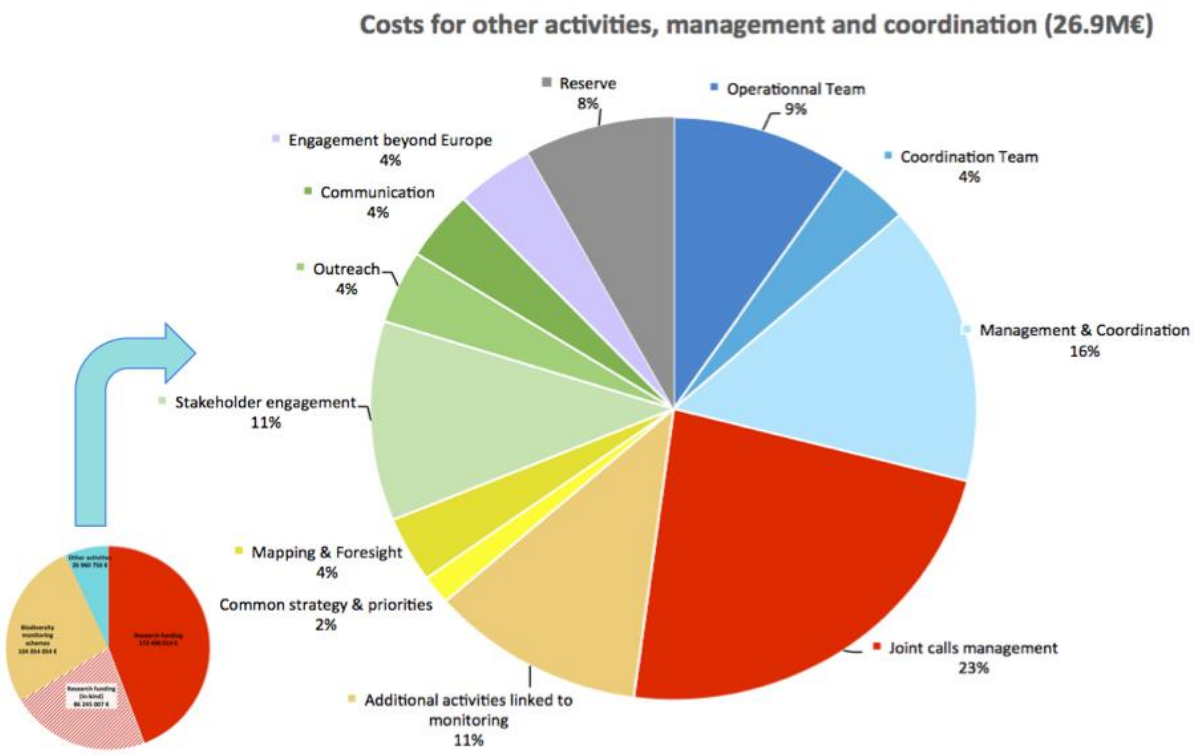
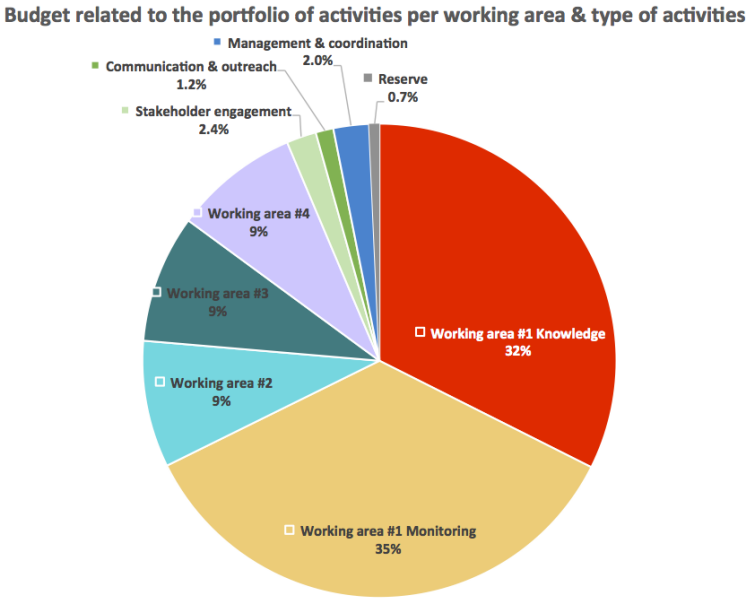


Figure 13: Distribution of the costs of the European Partnership on biodiversity associated to activities other than research funding and biodiversity monitoring.

Overall, the share of costs between working Areas is as follows (Fig. 14; estimation on 6th April 2020)[51]: 37% for the aspect of Working Area 1 devoted to promote knowledge generation on biodiversity changes, drivers, impacts and levers of actions; 30% for the aspect of Working Area 1 devoted to develop a coherent and harmonized pan-European network of biodiversity monitoring schemes linked to R&I actors; 10% to Working Area 2 on R&I support to development of Nature-based Solutions and biodiversity valuation by private actors; 10% to Working Area 3 on science-based support to policy making; 10% to Working Area 4 on internationalisation of R&I activities in Europe. Management and coordination costs represent 2% of the total costs. At this stage, it is difficult to assess the actual costs allocated to stakeholder engagement and to communication and outreach, as the majority of these costs will be included in the funding of research projects.



[51] assumption made here : 3% and 1% of the costs for funding research projects will correspond to stakeholder engagement and communication/outreach ; 55% to Working Area 1 ; and 15% to Working Areas 2, 3 & 4.

Figure 14: Overview of the distribution of the total budget of the European Partnership on biodiversity (304 Mio €, excluding in-kind contribution to research projects) according to its Working Areas (estimation on 6th April 2020). See footnote explaining the assumption made.

2.3 Governance

The mechanisms for the governance of the European Partnerships under Horizon Europe, including the role of EC, are still under development and will be co-designed by the EC and the members of the Partnership

At this date, we foresee that the European Partnership on biodiversity will include >50 full members from at least 25 countries (and also from regions) (see Appendix 7). While 49% of the members will be research funding agencies or foundations, 7% will be Environmental Protection Agencies and 7% local Governments (i.e. 62% of members able to fund R&I projects through in-cash support). In addition, 38% will be Ministries ready to invest in-kind contributions in different Partnership activities, in particular activities related to biodiversity monitoring (Fig. 15). The Partnership will thus bring together a broad range of partners with a wide expertise, but with complementary missions and expectations, and will ensure a strong link with EC services.
The successful development of a Partnership and its ability to achieve its main objectives will largely depend on:
(i) the collaboration between partners and between the different governance bodies;
(ii) the efficient link with relevant EC services and in particular the Environment Knowledge Community (EKC);
(iii) the interaction with a broad range of stakeholders; and
(iv) the development of specific links with third parties playing specific roles in the biodiversity research landscape and bringing in complementary expertises.

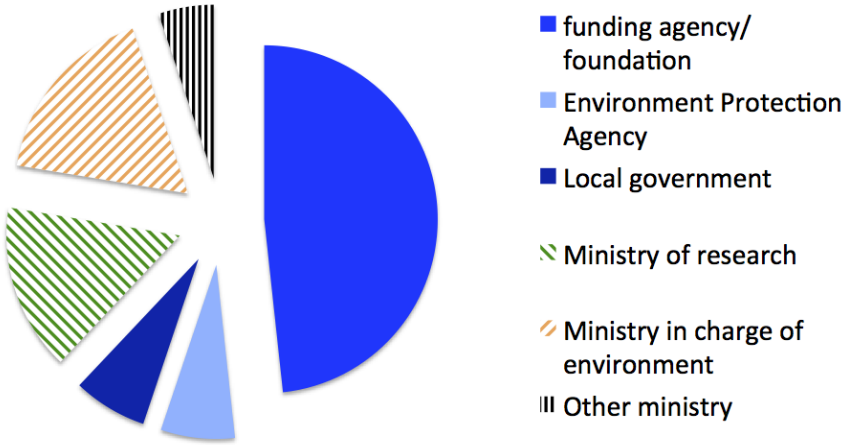


Figure 15: Foreseen distribution of the members the European Partnership on biodiversity among Ministries of research, research funding Agencies or Foundations, Environmental Protection Agencies, Ministries in charge of Environment, other Ministries, and local Governments. Full symbols correspond to bodies directly funding R&I projects by in-cash contribution.

In order to ensure that the Partnership delivers on the planned objectives, processes will be needed to allow (i) the organisation of consultations and the collection of relevant advice, (ii) a transparent and efficient decision-making process throughout the duration of the

Partnership, in particular regarding the prioritization of activities, and (iii) the proper dissemination of information and engagement of stakeholders.

The governance structure (Figure 16) is instrumental in reaching the objectives of the Partnership. It will largely build on previous BiodivERsA experiences that have proven to provide good governance and decision making by all partners, while allowing reinforced advisory processes.

The **governance of the Partnership relies on articulated bodies:**

- A **General Assembly** is composed of representatives from the Partnership members. The members are ministries of research, ministries of environment, research funding agencies, environmental protection agencies and foundations, selected according to the research and innovation landscape of each country or region. The membership will ensure a wide geographical coverage and ensure a good representation of research and innovation programmers and funders and important decision-makers in the biodiversity field. Integrating these different types of organisations within the Partnership will ensure that the latter can reach its goals by promoting joint programming for biodiversity research (the ministries in charge of biodiversity research, funding agencies and some foundations will play a key role here), while ensuring a better link with policy-making and encouraging the integration of science-based knowledge by policy stakeholders and other stakeholders (key role of ministries in charge of biodiversity/environment, of environment protection agencies and some foundations here).

  The total number of votes will be limited to 2 (or 3 tbd) per country (regardless of the number of entities that are Partners by country) to ensure a good balance between countries. Where several organisations from a same country are members of the Partnership, it will be highly encouraged to set-up ad-hoc governance structure at national level to ensure coordination of their positions within the Partnership. An additional group of partners will gather ORs and OCTs, which will also have to organise themselves with a maximum of 2 (or 3 tbd) votes to represent the voice of these members.

  The following actors will be invited to attend General Assembly meetings as advisers:
  - DG R&I and DG ENV from the European Commission: these DGs will liaise with other relevant DGs, in particular through the EKC, and this will ensure synergies with and support of the European Commission services and consistency with relevant European Commission's programmes;
  - the Chair of the Advisory Board (scientific member);
  - 5 representatives of the following colleges of the enlarged Stakeholder Board: (i) Habitat, species and nature conservation; (ii) economic and industrial activities; (iii) relations with the public; (iv) wild and domestic genetic resources; and (v) boundary organisations.

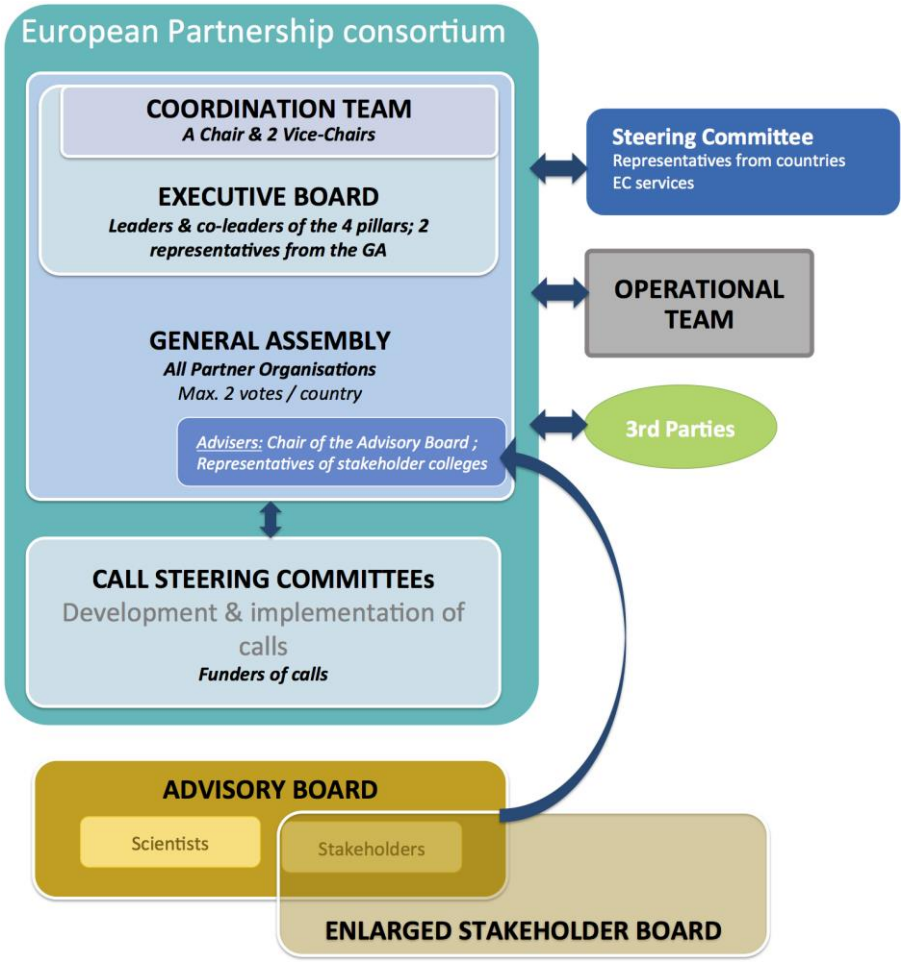


Figure 16: Possible governance structure for the Biodiversity Partnership. Three levels of engagement of stakeholders will be used: (i) engagement with a broad range of stakeholders through the Stakeholder Board, allowing two-way exchanges and information and mobilization of a large number of stakeholders; (ii) higher involvement of a range of stakeholders for surveying the activities of the Partnership and providing advices; and (iii) direct collaboration with a few major stakeholders (when relevant through establishment of sub-contracts).

The General Assembly is the formal decision-making body of the Partnership. It discusses and decides about the strategy and major orientation for the BiodivERsA Partnership, including the strategic orientation of the Partnership, priorities and actions to be supported, evolutions in Partnership's membership, contractual issues and allocation of budget among the various activities and among partners. It meets at least once a year.

- An **Executive Board** composed of (i) the leader plus the co-leader for each of the four Axes of the Partnership, (ii) the three members of the Coordination Team, and (iii) two representatives of the General Assembly elected for a 2 year-period (i.e. a maximum of 13 members). The Executive Board is an executive group that monitors the advancements of the activities. It is responsible for regularly checking the good implementation of the decisions of the General Assembly and is able to take things forward between meetings of the whole consortium. It meets at least 6 times per year, and as needed.
- A Chair and two Vice Chairs. Together they form the **Coordination Team**. They guide the strategic development of the Partnership and are responsible for continuous monitoring of the Partnership activities, for taking all necessary measures to ensure the achievement of the Partnership objectives, for representing the European Partnership and for engaging and developing strategic links with external organisations. The Chair and Vice Chairs can represent the Partnership as needed.
  - The Chair of the Partnership is elected by the members of the General Assembly

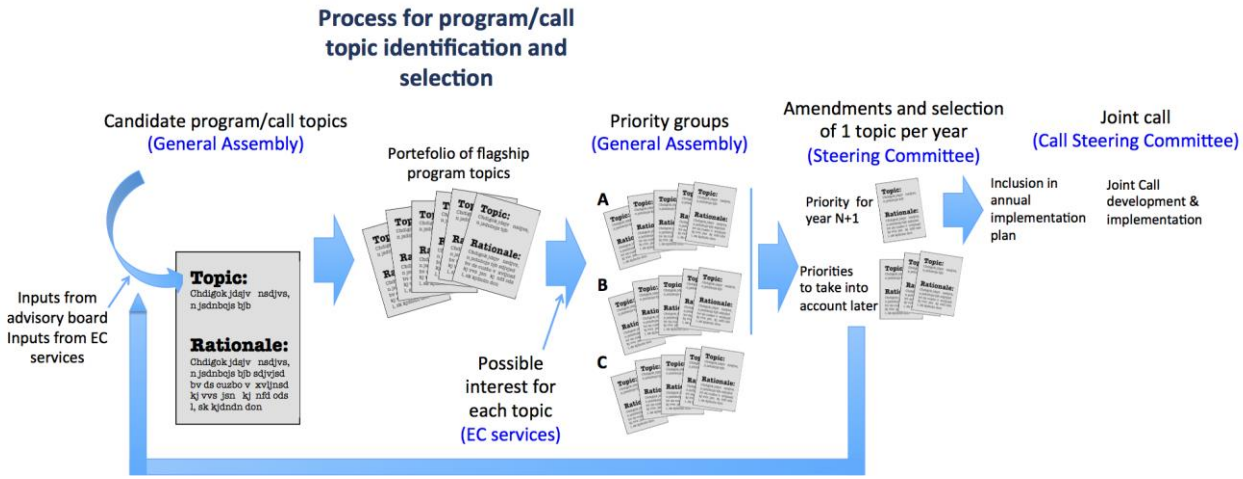
for a four-year term, renewable as needed. He/she is Chair of the General Assembly and Executive Board. Supported by the two Vice Chairs, he/she ensures the link with the European Commission services.

- The Vice-Chairs are elected by the members of the General Assembly for a four-year term, renewable as needed.

In addition, for each Partnership joint call, a **Call Steering Committee** is set up. The Call Steering Committee gathers one representative per organisation financially contributing to the joint call. One (or several) call Steering committee member(s) act(s) as Call Secretariat. The Call Steering Committee is in charge of the development and implementation of the call.

The figure 17 below summarizes the process used each year to propose and select the topics of the flagship programs and joint calls to be included in the implementation plan.

<<Modalities of how the Partnership will articulate with Horizon Europe still need to be defined>>



and an Operational Team:

- The **Operational Team** is composed of staff hired by one or several Partnership members on behalf the whole consortium. It ensures the operational management and monitoring of the Partnership activities, implementing part of the activities when relevant and more generally supporting the Partnership members in the implementation of activities. The Operational Team facilitates the efficient exchange of information between partners, supports the organisation of meetings and workshops and the production of minutes, collects all outputs produced, and contributes actively to the e-platform 'European biodiversity R&I lighthouse' (communication and outreach). The Operational Team oversees the adherence to financial and contractual requirements of the project, and supports the Coordination Team and Executive Board to survey the workflow and scheduling of the Partnership activities, the timely production of deliverables and the achievement of milestones. The Operational Team can attend the General Assembly, Executive Board and Advisory Board meetings with a role of support and advice. The Operational Team is led by a Chief Executive Officer under the supervision of the Chair of the Partnership.

The formal link with the European Commission services will be made through a **Steering Committee**, composed of representatives from DG R&I, DG ENV, possibly other relevant DGs members of the EKC, and members of the Partnership. During the Steering Committee meetings (one per year), the annual draft implementation plan proposed by the General Assembly will be presented, discussed, amended as needed and agreed on, specifying the level of EC support to the proposed activities.

For this Partnership, the **engagement of stakeholders will be made possible through:**

- An **Advisory Board** composed of a few scientists and non-academic stakeholders.

The scientific members of the Advisory Board are elected by the General Assembly while the stakeholder members of the Advisory Board are elected by the enlarged stakeholder board (see below). The Advisory Board is renewed by one-third every two years. The Advisory Board provides advices and suggestions on the strategy and main activities of the Partnership. It is consulted on the main documents produced by the Partnership, reviews the outputs and impacts of the Partnership, and suggests ways of improvement. It contributes to the dissemination of information related to the Partnership towards relevant scientific bodies and stakeholders. The Advisory Board meets at least once a year.

- An **enlarged stakeholder board** gathering a broad range of stakeholders. It will be organised under 6 different thematic colleges, representing the different broad stakeholder types to engage with, namely:
    - Habitat, species and nature conservation (including major initiatives in the field of conservation and protection of biodiversity)
    - Economic and industrial activities (including representatives from private companies and industries from the main economic sectors concerned by biodiversity issues)
    - Relations with the public (including organisations dealing with citizen science, science, media, popularisation for the general public, etc.)
    - Wild and domestic genetic resources
    - European policy makers (including European Commission representatives from different DGs (de facto, DG R&I and DG ENV will be included), members of the European Parliament, etc.)
    - Boundary organisations (science/policy)

  Membership will be open. An open call for interest will be published to set up this board and all relevant organisations will be free to apply. The Board will be renewed every two years, each time through an open call process. One representative and one deputy representative per college will be elected within each college. These six representatives and their deputy will be the stakeholder members of the Partnership Advisory Board.
  The enlarged stakeholder board meets once a year. It is informed about the main activities and outputs of the Partnership. It can contribute to the identification and co-building of research needs to be addressed by the Partnership. The members of this board also bring their own field expertise to contribute to bridging the gaps between research and innovation, and to improve science-based knowledge transfer.

The Partnership recognizes the importance of ethics issues and data management issues. It will thus set up a Working Group on Ethics and Data Management, to tackle all relevant ethical issues and issues related to the use and protection of personal data. This group will make concrete propositions to put in place procedures to handle these issues appropriately. The Working Group will be composed of a few partners as well as few experts having the required skills. Experts for the implementation of the Nagoya Protocol (Access and Benefit Sharing issues) by research will also be mobilized as needed to give clear advises and guidelines to the European Partnership as a whole and the project research it funds on how to comply with the Nagoya Protocol[52]. A Data Protection officer nominated for each flagship Programme of the Partnership will also be invited to attend the Working Group. The Working Group will meet on an ad-hoc basis, depending on the needs.

This European Partnership also recognizes it has to work in complement to other organisations or initiatives that play a specific role in the field and that the Partnership should closely engage with to reach its objectives. This initiatives or organisations may for example play a complementary role or have specific expertise needed for the implementation of a

[52] the intention is to ensure that the Partnership complies with the Nagoya Protocol on Access and Benefit Sharing and EU Regulation (EU) No 511/2014 which implements this Protocol

Partnership objective or activity. The Partnership will select the most important ones to engage them as **Third Parties** (who will not be members of the Partnership). Developing strong links with these third parties will reinforce synergies with these complementary initiatives and avoid duplication of efforts. Examples of Third Parties and functions of interest are presented in Appendices 4-6. Identification and engagement of Third Parties will be a continuous process during the Partnership life.

2.4 Openness and transparency

Process for the establishment of an open and transparent Partnership

A clear and transparent governance (as described in section 3.3) will be set-up from the beginning of the Partnership, allowing the participation from a broad range of actors in the Partnership, with no unjustified barriers. The **members** of the partnership will consist of ministries in charge of research and of biodiversity/environment protection, research funding organisations, environmental protection agencies, and relevant foundations from MS and ACs. All organisations corresponding to this description will be welcome in the Partnership, after evaluation of their profile and relevance for this Partnership by the General Assembly. So far, over 50 members from at least 25 countries are interested to join this European Partnership on biodiversity (Appendix 7). The partnership will remain open to new members during its whole lifetime, and specific efforts will be developed to ensure a good geographic coverage within the Partnership with special focus on countries in Europe not (sufficiently) represented.

In addition to the Partnership members, a broad range of **stakeholders** will have the possibility to participate within the Partnership through its enlarged stakeholder board and Advisory Board (see section 3.3). By setting-up the stakeholder board through an open and transparent process (open call), and by letting the enlarged stakeholder board deciding on their representation in the Advisory Board, the Partnership will create favourable conditions to engage all relevant sectors from the society and will ensure that a broad range of actors can effectively participate in its activities.

Policy for enlargement of the Partnership and inclusiveness

After the start of the Partnership, it will actively strive to further widen the Partnership and will continue its efforts to mobilize additional partners. A pro-active policy will be set-up to:

- improve the geographical coverage of the Partnership for countries associated to Horizon Europe: if some countries are not participating in the Partnership, it will actively try to engage with them and to convince them to become members, with a view to improving the joint programming of research between countries;
- ensure that both research programmers and funders and policy makers in the biodiversity field are represented in the Partnership. The participation of these two types of actors is crucial to ensure a link between research and policy/implementation, to better take into account and integrate research and policy making temporalities and to improve the uptake of knowledge to support policies and actions. Pro-active actions will be taken to attract actors which might initially be missing from some countries.
- enlarge the Partnership with non-European countries through a pro-active and step-by-step approach: the Partnership will first engage with these countries through specific activities, such as joint calls. Successful collaboration might consequently lead to full membership, upon decision of the General Assembly.

The Partnership will also make particular efforts to ensure inclusiveness and enhance participation of some countries that are less performing in these types of collaborative networks and thus less inclined to participate. Based on the experience of BiodivERsA, the

Partnership will implement specific activities to increase the participation and success of these countries and their research communities and national stakeholders, including:

- Organisation of staff exchanges to share good practices on the functioning of this co-funded European Partnership and on how to improve the participation and success of small research communities. This will contribute to building capacity of the staff from key organisations from these countries;
- Proactive communication on the functioning of the Partnership and its activities and providing a specific support to these countries for joining the Partnership;
- Capacity building regarding the activities of the Partnership when relevant, e.g. its calls, towards the small research communities. This will be done through, e.g., info days and specific events in the concerned countries, increasing awareness and capacities from the research community on these opportunities;
- Promotion of tools and organisation of networking events to help building connection between research communities (e.g. through Partner Search Tool for calls, etc.).

Open access to the Partnership outputs & dissemination policy

Open access to the Partnership results will be promoted at two levels.

First, the research projects funded along with the Third Parties and the stakeholders engaged will be asked to actively contribute to result dissemination. In particular in the context of joint calls, the Partnership will strongly encourage open access of data and data sharing along with results dissemination to relevant stakeholders. Here the Partnership will contribute to reinforcing the capacity of the research community for both Open Science and knowledge transfer. Based on the work performed by BiodivERsA the Partnership will for example provide support and advice to the projects it will fund to improve their capacity to engage stakeholders, to produce policy briefs, to develop data management plans, etc. This first approach where the role of the Partnership is to support other entities will allow making the best use of the many networks that already exist and are efficient ways to reach a broad range of actors.

Second, a devoted strategy will be developed at the level of the Partnership itself to ensure that its mains outputs and impacts are known, widely disseminated, and easily accessible. This will be done through activities part of the transversal Working Area 'Communication, outreach and capacity building'.

A transparent process for the development of the Partnership agenda and work programme

Clear and transparent processes will be implemented for developing the Partnership Strategic Research and Innovation Agenda (SRIA) and its annual work programmes (Appendix 3):

- The Partnership SRIA will be developed based on the inputs from all the Partnership members, as well as the Advisory Board (including advices and suggestions channelled from the enlarged stakeholder board). In addition, to ensure that a broad range of views are taken into account, an open consultation will be organised during each update of the SRIA, targeting academic and non-academic organisations in the field of biodiversity, ecosystem services and Nature-based Solutions research. This transparent process – which will be publicly advertised – will ensure to collect the views from a broad range of actors and ultimately develop a SRIA taking into account the needs from a broad range of actors and end-users.
- As for the annual work programmes, they will be developed based on the inputs from all the Partnership's members and from the Advisory Board, along with close interactions with the services of the European Commission.

During the development of the annual work plans, a specific consultation mechanism will be implemented to identify and select the topics of the flagship programmes and calls for research proposals to be implemented each year by the Partnership. Each Partner will initially be invited to suggest possible topics for flagship programmes (including topics for

calls) together with a rationale supporting each topic, taking into account the research needs expressed by academic and non-academic stakeholders. These suggestions will be collected and circulated to all Partners. The European Commission services will also be consulted. The Partners will then be asked to prioritize among these topics, and the priority groups of topics for future flagship programmes and calls will be taken into account when developing the annual work plans. For each joint call, the development and implementation of the call, including the elaboration of call text, will be made by the Call Steering Committee composed exclusively of partners in a position to co-fund the call with the support from the Call Secretariat and Partnership Operational Team. This process has proven particularly successful in BiodivERsA, as it allows combining an open process (bottom-up approach for the suggestion of topics) while ensuring that the topics prioritized for funding can actually be co-funded by a critical mass of organisations.

3 Appendices

Version 26/05/2020

3.1 APPENDIX 1 – Executive Summary of the European Partnership on Biodiversity

Biodiversity, and the benefits it provides, is fundamental to human well-being and a healthy planet. Despite ongoing efforts, biodiversity is deteriorating and this decline would continue under business-as-usual scenarios. As shown by recent assessments, biodiversity loss is not only an environmental issue, but a developmental, economic, security, social and moral issue as well. The emergence of the virus which led to the on-going COVID-19 crisis is likely to be the latest example of how human impact on biodiverse areas and wildlife habitats is linked to the spread of infectious diseases. Reports also show that the window of opportunity to act and mitigate the negative impacts is closing fast, and that we need deep systemic changes in policy, society and our economy to reverse the current trends and secure our life-supporting safety net. These changes should be supported by tangible, larger and more impactful joint R&I actions.

The European Partnership on biodiversity will implement an ambitious programme to help ensure that, by 2030, nature in Europe is back on a path of recovery, and by 2050 people are living in harmony with Nature.

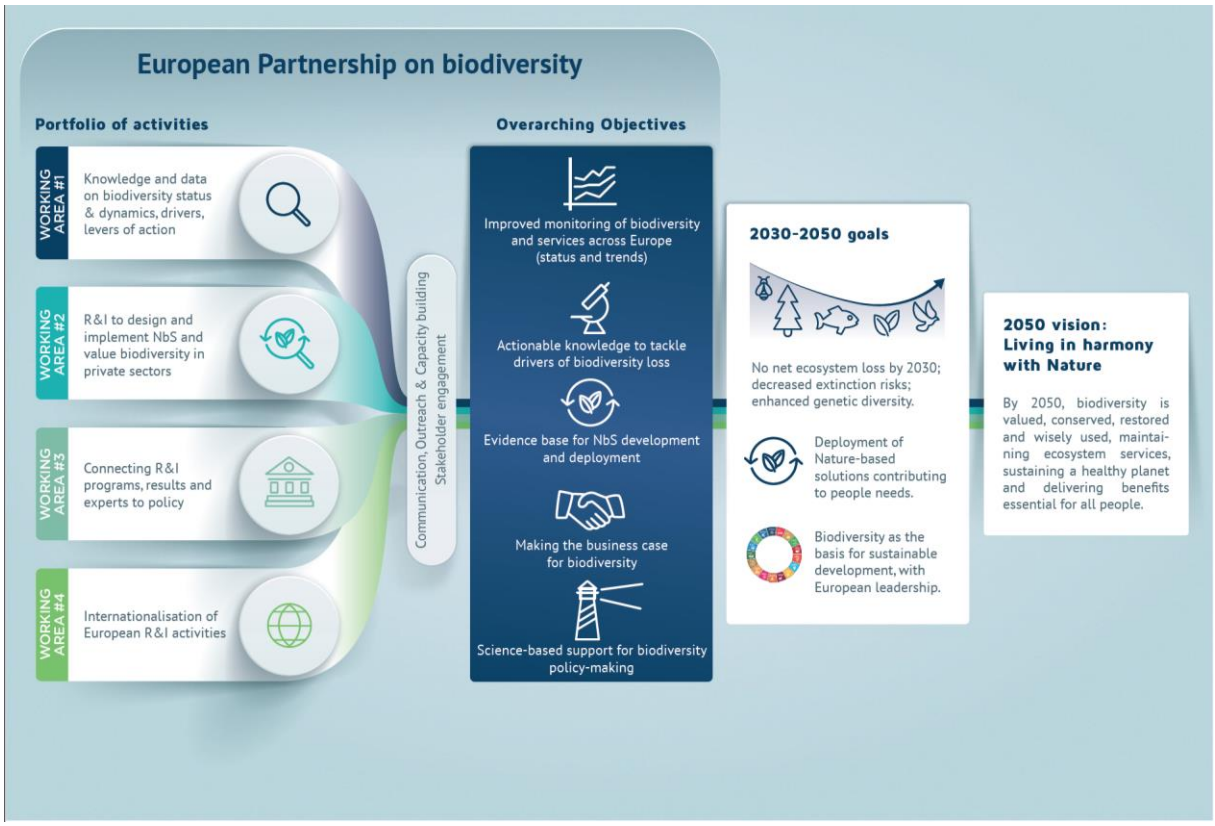


Fig. A1: Schematic representation of the working areas (including two transversal Areas) and overarching goals of the European Partnership on biodiversity, aiming at contributing to the 2030-2050 biodiversity goals and the 2050 vision of people living in harmony with Nature.

As depicted in Fig. A1, in the context of these long term goals, the European Partnership on biodiversity has five overarching objectives: (1) improve monitoring of biodiversity and ecosystem services across Europe; (2) generate science-based, actionable knowledge to tackle

the biodiversity crisis and the drivers of biodiversity loss; (3) reinforce the evidence base for the development, deployment and assessment of tools such as Nature-based solutions; (4) make the business case for biodiversity; and (5) ensure efficient science-based support for biodiversity policy making in Europe.

The Partnership will meet these objectives by implementing a range of activities organised in four Working Areas plus two transversal Working Areas (Fig. A1). Activities of Working Area 1 will be devoted to knowledge and data on biodiversity status and trends, drivers, impacts and levers of action. The outcomes of these activities (Fig. A2) will be the development and implementation of more systemic transnational R&I programs for producing new knowledge; and the establishment of consistent and harmonized national/regional biodiversity monitoring schemes across Europe, in relation with R&I actors, infrastructures and observatories. Activities of Working Area 2 will focus on R&I to design and deploy Nature-based Solutions and value biodiversity in private sectors. The Partnership will enhance the uptake of R&I activities on biodiversity at European and national scales by relevant stakeholders, including businesses and citizens, to make Europe a global leader in the sustainable management and use of biodiversity. The outcome will be improved uptake of science-based knowledge and innovation by practitioners and market. This will help businesses and local authorities to develop/deploy Nature-based Solutions to pressing societal challenges. Activities of Working Area 3 will connect R&I programs, results and experts to policy. Through a diversity of science-policy interfacing activities, the Partnership will support policy makers and other policy stakeholders in the monitoring and evaluation of the efficiency and effectiveness of implementation of biodiversity policies and policy areas affecting biodiversity. The partnership will also reinforce the knowledge base on important policy issues and consequently propose policy options and guide policy development and implementation. The outcome will be an improved uptake of science-based knowledge and innovation by policy stakeholders on biodiversity and improved science-based support to policy-making. The Partnership will be particularly relevant to support the implementation and enforcement of the European Biodiversity Strategy for 2030 and to support sustainability issues more broadly as part of the European Green Deal. Particular efforts will be devoted to the perspective on risks associated to the implementation of insufficiently pre-evaluated approaches balanced against timely delivery of worthwhile initiatives that create change.

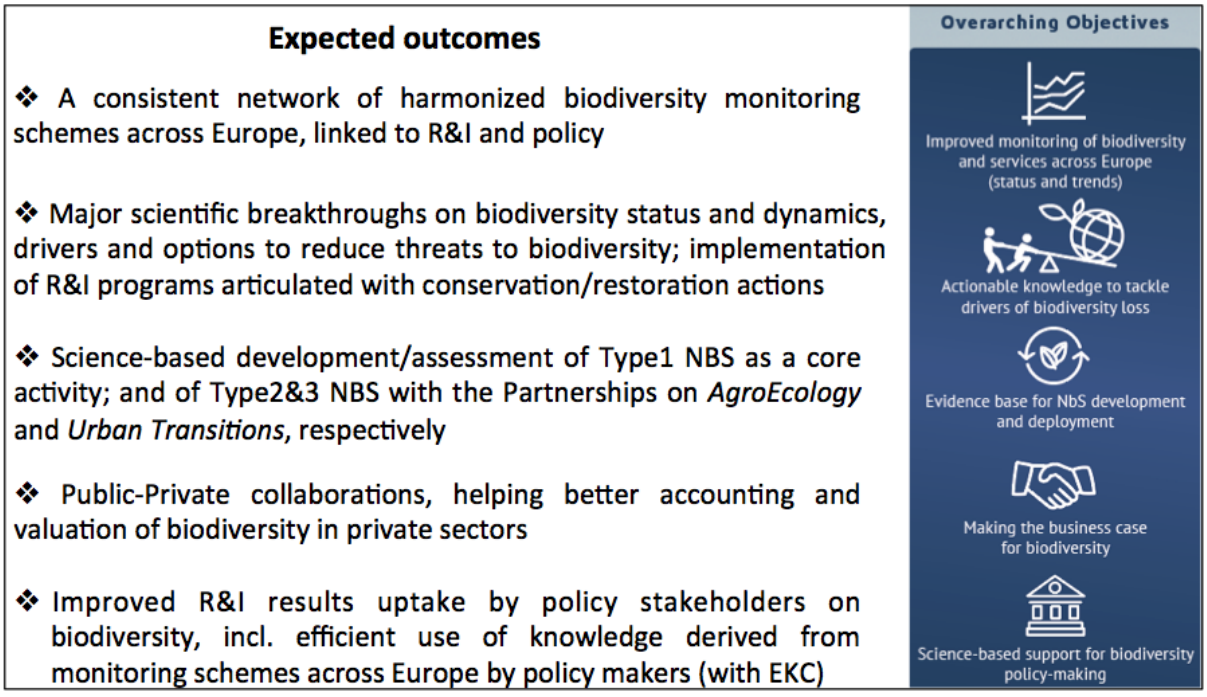


Fig. A2: Expected outcomes of the Biodiversity Partnership, in relation with its overarching goals.[53]

Activities of Working Area 4 will be devoted to internationalisation of European R&I activities. They will strengthen collaboration between R&I programmes on biodiversity in Europe with those in non-ERA countries. Strategic collaboration with IPBES will also be promoted, building capacity for engagement of Member States and Associated Countries in IPBES when relevant. The Partnership will also allow implementing R&I activities filling the specific needs of ORs and OCTs regarding biodiversity, for which collaboration with non-European countries is often crucial. The outcome will strengthen the role of Europe as global contributor of biodiversity research and the EU's biodiversity diplomacy intelligence. The Partnership will promote stakeholder engagement throughout all its activities part of a transversal Working Area, and will invest into a range of communication, outreach and capacity building activities part of a second transversal Working Area. This will increase the understanding of biodiversity issues by society, improve the visibility of the role of R&I in addressing the biodiversity crisis, and promote engagement of a broad range of stakeholders.

Through its membership and governance, the Partnership will promote tighter collaboration between national/local and European policy makers in charge of biodiversity and related issues, including environmental agencies, and R&I policy makers and R&I programme funders, in relation with diverse stakeholders. The Partnership will provide an overarching platform fostering seamless collaboration and exchange amongst relevant actors (scientific community, public authorities, businesses, citizens, societal actors, NGOs etc.) at appropriate levels and scales. This in turn will help and support citizens, policy makers and businesses in taking adequate action at European, national and local level. The Partnership will build critical mass in capacity, resources and expertise across countries/EU, across R&I and monitoring, and across science/society/policy, which reaches far beyond the achievements of traditional actions through national or Framework Programmes. The Partnership will also further increase synergies between existing initiatives to avoid duplication, validate previous investments and harness existing expertise.

Overall, this Partnership will address the drivers and consequences of biodiversity loss, many of which are of transboundary nature. It will increase science-based support to action on the ground and policymaking, contributing to a sustainable ecological transition in Europe. Anchored in the post 2020 global biodiversity framework, the Sustainable Development Goals, and the EU biodiversity strategy to 2030, the Partnership will contribute to the implementation of the European Green Deal, and the 'New Deal for Nature and People' under the Convention on Biological Diversity globally.

[53] Typology according to Eggermont et al. (2015). Nature-based solutions: new influence for environmental management and research in Europe. GAIA – Ecological Perspectives for Science and Society 24: 243-248.
Type 1: No or minimal interventions in ecosystems, with the objectives of maintaining or improving the delivery of a range of ES both inside and outside of these conserved ecosystems; Type 2: management approaches that develop sustainable and multifunctional ecosystems and landscapes, with intermediate levels of intervention; Type 3: managing ecosystems in very extensive ways or even creating new ecosystems

3.2 APPENDIX 2 – Organisations mobilized for drafting the co-funded European Partnership 'Rescuing Biodiversity to Safeguard Life on Earth'.

In November 2019, part of the development of the European Partnership 'Rescuing biodiversity to safeguard life on Earth', BiodivERsA and the DG R&I and DG ENV of the European Commission have organised a workshop to promote the co-design of the Partnership with envisaged members and a broad range of stakeholders. The following organisations attended this workshop, and many provided inputs:

Ministries, funding organisations and foundations:
National Fund for Scientific Research (F.R.S.-FNRS), Wallonia, Belgium; Belgium Biodiversity Platform (Belspo), Belgium; Flanders Research Foundation (FWO), Belgium; Croatian Ministry of Foreign & European Affairs, Croatia; Technology Agency of the Czech Republic (TACR) – *under Ministry of Environment*, Czech Republic; Estonian Research Council (ETAG) – *under Ministry of Education and Research*, Estonia; Academy of Finland (AKA) – *under Ministry of Education and Culture*, Finland; Finish Ministry of Environment, Finland; French Foundation for Research on Biodiversity (FRB), France; French Ministry of Higher Education, Research and Innovation (MESRI), France; French National Research Agency (ANR) – *under Ministry of Higher Education, Research and Innovation,* France; French Ministry for an Ecological and Solidary Transition (MTES), France; French Agency for Biodiversity (AFB), France; Guadeloupe Region, France; Deutsches Zentrum für Luft- und Raumfahrt e. V. (DLR) – *under Federal Ministry of Education and Research*, Germany; German Research Foundation (DFG), Germany; Irish Environmental Protection Agency (EPA) – *under Department of Communications, Climate Action & Environment*, Ireland; Irish Agriculture and Food Development Authority (Teagasc), Ireland; Israelian Ministry of Environmental Protection (MOEP), Israel; Latvian Ministry of Environmental Protection and Regional Development (MoEPRD), Latvia; Research Council of Lithuania (RCL) – *under Ministry of Education and Science*, Lithuania; Luxembourg Ministry of Environment, Luxembourg; Dutch Ministry of Agriculture, Nature and Food Quality, the Netherlands; Research Council of Norway (RCN) – *under Ministry of Education and Research*, Norway; Polish Ministry of Science and Higher Education, Poland; Portuguese Foundation for Science and Technology (FCT) – *under Ministry of Science, Technology and Higher Education*, Portugal; Regional Fund for Science and Technology of Azores (FRCT), Portugal; Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) – *under Ministry of Education and Research*, Romania; Slovak Academy of Sciences (SAS), Slovakia; Spanish State Research Agency (AEI) – *under Ministry of Science and Innovation*, Spain; Canarias Government (GOBCAN), Canary Islands, Spain; Swedish Environmental Protection Agency (SEPA) – *under Ministry of environment*, Sweden; Swedish research council for sustainable development (Formas) – *under Ministry of environment*, Sweden; Swiss Science Foundation (SNSF) – *under The Federal Council*, Switzerland; Netherlands Organisation for Scientific Research (NWO) – *under Ministry of Education, Culture and Science*, The Netherlands; Scientific and Technological Research Council of Turkey (TUBITAK), Turkey; Joint Nature Conservation Committee (JNCC), United Kingdom

European Commission: DG AGRI; DG ENV; DG MOVE; DG R&I; JRC.

Other stakeholders:
Adelphi research GmbH; ALTER-Net - EKLIPSE; ARUP; BirdLife Europe and Central Asia; BlueGrowth & MarineServices; Carey Tourism consultancy; Consortium of European Taxonomic Facilities, CETAF; COPA European farmers - COGECA European Agri-Coorperatives; De Ceuster Meststoffen NV of the company Group De Ceuster DCM nv;

EASME LIFE Program; eLTER / UFZ; European Bureau for Conservation and Development; European forest genetic resources programme; European Landowners' Organization; Food and Agriculture Organisation of the United Nations; iDiv - sDiv infrastructure; IPBES; University of Gothenburg; IUCN European Regional Office; JPI Oceans; LifeWatch ERIC infrastructure; Local Governments for Sustainability ICLEI Europe; LVMH company; Microsoft Corporation; OPPLA EU Repository of Nature-based Solutions; Overseas Countries and Territories Association; World Conservation Monitoring Center Europe (WCMC Europe); Wetlands International European Association; World Wildlife Fund (WWF) European Policy Office

Scientists from the following research institutes and universities:
Ghent University (Belgium); Research Institute for Nature & Forest (Belgium); Royal Belgian Institute of Natural Sciences (Belgium); University of Antwerp (Belgium); Bulgarian Academy of Sciences (Bulgaria); Charles University (Czech Republic); National Centre of Scientific Research CNRS (France); National Institute for Agricultural Research (France); National Research Institute on Sciences and Technologies for Environment and Agriculture – IRSTEA (France); University of Nantes (France); Alfred Wegener Institute (Germany); Institute of Physical Geography and Landscape Ecology, Leibniz Universität Hannover (Germany); Universität Duisburg-Essen (Germany); University of Göttingen (Germany); Centre for Integrative Biodiversity Research iDiv, Halle-Jena-Leipzig (Germany), University of Latvia (Latvia); Mykolas Romeris University (Lithuania); Catholic University of Leuven (The Netherlands); Institute of Fundamental Technological Research of the Polish Academy of Sciences (Poland); University of Warsaw (Poland); Agriculture School, Coimbra Polytechnic (Portugal); Instituto Gulbenkian de Ciência / CNRS (Portugal / France); ETC-UMA, University of Malaga (Spain); University of Oviedo (Spain); Stockholm University (Sweden); Swedish University of Agricultural Sciences SLU (Sweden)

Individual feedbacks have also been received on a previous version the draft proposal from the following organisations:
Belgian Science Policy Office (BelSPO), Belgium
Czech Ministry of Environment, Czech Republic
Academy of Finland (AKA) – under Ministry of Education and Culture, Finland
French Ministry of Higher Education, Research and Innovation (MESRI), France
French Ministry for an Ecological and Solidary Transition (MTES), France
Museum of Natural History (MNHN), France
Guadeloupe region, Research Department, France
Deutsches Zentrum für Luft- und Raumfahrt e. V. (DLR) – under Federal Ministry of Education and Research, Germany
German Research Foundation (DFG), Germany
Department of Agriculture, Food and the Marine of the Government of Ireland
Irish Environmental Protection Agency (EPA), Ireland
Irish Water, Ireland
Irish Health Service Executive, Ireland
Ministry of Education, University and Research (MIUR), Italy
Ministry of Science and Higher Education, Poland
Fundação para a Ciência e a Tecnologia (FCT), Portugal
Regional Fund for Science and Technology of Azores (FRCT), Portugal
Spanish State Research Agency (AEI) – under Ministry of Science and Innovation, Spain
Swedish Environmental Protection Agency (SEPA) – under Ministry of environment, Sweden
Swedish Research Council for Sustainable Development (Formas) – under Ministry of environment, Sweden
The Mapping and Assessment of Ecosystems and their Services (MAES) initiative
OPPLA (the EU Repository of Nature-based Solutions)
Microsoft Corp

Long-Term Ecosystem Research in Europe (LTER-Europe)
The LifeWatch European Research Infrastructure (LifeWatch ERIC)
Further, dedicated meetings were organised with : (1) EKLIPSE and ALTER-Net; (2) Microsoft Inc.; (3) WCMC Europe ; (4) and with MAES and EEA

3.3 APPENDIX 3 – Planned process for developing the Strategic Research and Innovation Agenda of the European Partnership 'Rescuing biodiversity to safeguard life on Earth'

Context

The EC requires that each European partnership will develop early a SRIA and it is expected that the presentation of each Partnership includes either this SRIA or at least the way the SRIA will be developed. Hereafter we present the ongoing process that is used to develop the SRIA for the European Partnership 'Rescuing biodiversity to safeguard life on Earth'.

First, we will use important existing materials, in particular the BiodivERsA Strategic Research and Innovation Agenda (SRIA) that was developed in 2016 to reinforce the ERA on biodiversity, for developing the European Partnership SRIA. The BiodivERsA SRIA identified three Core Themes (CT) and three Transversal Themes (TT) dealing with general issues relevant to all the Core Themes and covers the period 2017-2020.

Secondly, we will collaborate with ongoing processes and use materials being developed in the near future as they become available. This includes building on strategic research and innovation needs identified in science-policy fora (e.g. consolidated lists of knowledge gaps hampering decision-making identified in the IPBES-context), thematic multi-stakeholder fora (e.g. needs from policy, practice and business identified in the European multi-stakeholder platform on Nature-based Solutions) as well as in specific stakeholder networks (e.g. practical needs identified by the EU Business@Biodiversity Platform).

The European Partnership SRIA is tightly linked to the policy, practice and funding landscape, and it will serve as the strategic basis for federating efforts of diverse stakeholders towards the rescue of biodiversity and safeguard of life on Earth.

The European Partnership SRIA co-development process

Until the European Partnership is formally set up, the SRIA development will be led by BiodivERsA in tight collaboration with the European Commission services and other key organisations, pro-actively mobilizing foreseen additional members for this European Partnership. The close involvement of stakeholders, in particular for the co-development of the early drafts, will be ensured through devoted workshops and meetings, as the strategic workshop co-organised in November 2019 by BiodivERsA and the European Commission, and by mobilizing the BiodivERsA Advisory Board. Further co-development and inputs will be sought beyond these groups through online and possibly physical public consultations as opportunities arise (e.g. proposed session at the European Commission's Green week). This process for the co-development of the European Partnership's SRIA is presented in Fig. A3.

Figure A3: The multi-stakeholder involvement approach used for developing the SRIA for the **European** Partnership

BiodivERsA has a successful track record in implementing such ambitious multi-stakeholder involvement approaches, having mobilised institutions such as research organisations and research infrastructure managers, policy makers (including different relevant DGs from the European Commission, the European Parliament, and relevant national Ministries and local governments), many stakeholders including businesses, different joint programming initiatives, and different international initiatives (e.g. IPBES, CBD, etc.) in the consultation for the 2017-2020 SRIA development.

For elaborating the European Partnership's SRIA, DG R&I and DG ENV will be considered as key contact points for the European Commission closely engaged in the process, while the objective will be to mobilize a broad range of EC services at DG CLIMA, DG AGRI, DG MARE, DG REGIO, etc.

The process and timing:

Oct – Nov 2019 Co-design of a possible structure and possible functions of the European Partnership on biodiversity by BiodivERsA and EC services, based on the form to be filled for each European Partnership. This will be used as a basis to receive the inputs of a broad range of possible members (i.e. beyond current BiodivERsA members) and stakeholders.

Nov – Dec 2019 Co-organisation by BiodivERsA and DG RTD and DG ENV of a **strategic workshop** gathering BiodivERsA partners, MAES members, possible new members of the European Partnership, different representatives from the European Commission, major initiatives (like OPPLA, EKLIPSE, LifeWatch, LTER…) and other key stakeholders, in order to identify the main objectives and expected outcomes and impacts of the European Partnership on biodiversity, including stakeholders to engage.

Dec – Feb 2020	The outcomes of these workshops are incremented in the draft presentation of the Partnership by the BiodivERsA Coordination Team and EC services, to produce a **V2 document**.
Jan – Feb 2020	This draft is **further amended by the envisaged members of the European Partnership** during a meeting organised by BiodivERsA, and also presented to the members of the BiodivERsA advisory board, to produce a **draft V3 document**.
Feb – April 2020	This draft is **further amended with EC services,** including feedbacks from the A4 Division of EC, to produce a **V3 document**.
April 2020	This draft is **discussed and amended by the envisaged members of the European Partnership** during an e-meeting, and EC services, to produce a **V4 document**.
May – June 2020	**A webinar** is co-organised by BiodivERsA and DG RTD and DG ENV in May to present the Partnership (V4) to a broad range of stakeholders (some of them already participated in the Nov. 2019 workshop). In addition, **a broad public consultation process** will gather comments and suggestions from scientific and stakeholder organisations and institutions (i.e. not individuals) on the V4 document to identify opportunities for further improvement, potential gaps, suggested collaborations, etc. Specific efforts will be made to solicit feedbacks from stakeholder organisations representative of the various sectors depending on or impacting biodiversity, at all appropriate scales including European and International. The answers to the consultation will be analysed by early June 2020.
End June 2020	A **V5 document** accounting for the outputs of the consultation is sent to **all the likely members of the European Partnership and to EC services**. Countries would be asked for pre-commitments at this stage.
August – October 2020	**Production** of the SRIA by the foreseen members of the European Partnership in close link to EC services, based on the V5 document, the BiodivERsA SRIA and other key documents. EC services will present the strategy used for biodiversity within Horizon Europe to allow articulating the Partnership SRIA with Horizon Europe.
November – December 2020	**Finalisation of the document presenting the biodiversity Partnership** and the associated SRIA by the foreseen members of the European Partnership in close link to EC services.
Early 2021?	**Submission** of a proposal for a European Partnership on biodiversity by the members of this Partnership - depending on when the first call part of Horizon Europe will be released

In particular, the following inputs will be used to develop the first draft of the SRIA (non-exhaustive):

- Mapping activities, concerning the funding landscape, European research priorities from academia, policy and society including business, biodiversity research infrastructures…;
- Foresight activities: foresight on Nature-based Solutions (e.g. from CSAs or demonstration projects on the topic), outputs from recent Sutherland's Horizon Scans,

analysis of foresight activities and priorities of European and national strategic programming, peer-reviewed literature (synthesis and opinions mostly), etc.;
- Evaluation of the need for reinforcement of links with European and international initiatives, respectively, in particular but not limited to the knowledge gaps identified through LIFE projects and by IPBES (for which BiodivERsA is now hosting the technical support unit function on the generation of new knowledge);
- Outputs of the work dedicated to overseas countries and territories and outermost regions (OCTs and ORs) and relevant CSA;
- Outputs from the strategic workshop organised on Nov. 13-14th, 2019;
- Evaluation of the added value of different activities for alignment of national programmes
- Priorities/needs related to the ongoing developments in the policy landscape and research needs derived thereof;
- Priorities/needs related to the private sector (e.g. BiodivERsA and BiodivScen Research and Innovation workshops, the EC's Business@Biodiversity members' practical research needs on biodiversity, natural, and capital innovation collected in 2019);
- Priorities/needs related to citizen-science;
- Capacity building tools available for the research community (in terms of data management, science-society/science-policy interfacing, etc.).

The outputs of these different products or activities will contribute to identifying preliminary priorities and opportunities (some of them relevant to specific stakeholder groups, e.g. businesses, citizens, OCTs and ORs) and ultimately feed the SRIA of the European Partnership 'Rescuing biodiversity to safeguard life on Earth'.

3.4 APPENDIX 4 – Example of possible engagement of a key collaborator with clear added value to the Partnership: How Oppla can support the European Partnership on Biodiversity and vice versa

Rationale: In terms of supporting societal action, giving easy access to knowledge and R&I results is a key under-developed element of many past programmes. Supporting –in particular sub-national– initiatives can lead to rapid adoption of evidence-based actions. This includes the provision of free and open source tools/platforms as both a communication tool and democratise evidence-based decision making in support of biodiversity protection (e.g. what can my local government/community/business/school do?). The intention here is not to duplicate existing capacities, but to use existing ones for offering an online platform that would provide relevant outputs from the Partnership in form of digests, briefs, maps, infographics, tools, while also guiding stakeholders to organisations that can support them in using these resources. In this perspective, the European Partnership on biodiversity has discussed about a joint action with the Oppla platform (https://oppla.eu).

Free Support:

Oppla will provide as much support as practically possible to the European Partnership on 'Rescuing biodiversity to safeguard life on Earth' through its ongoing activities, including:

- the free hosting and signposting of outputs from research projects funded by the Partnership and associated knowledge products in the Oppla Marketplace
- the free hosting and signposting of real-world case studies of research and innovation impact in the Case Study Finder.
- all members of the European Partnership will be able to list upcoming events in the Events Calendar and make announcements of key Partnership activities, which will be included in Outline, the weekly Oppla newsletter.

In addition, much of the content in Oppla is available to be embedded in other websites via the Oppla API, including the website of the Partnership.
More generally, funded research projects (funded directly by the EC or MSs) that are aligned with the European Partnership will have similar access to Oppla's free services.

Additional Support (implying contracting Oppla as a key collaborator):

With additional resources, **Oppla** could provide more tailored support to the Partnership. This would be in addition to the free support (see above) in any case.

For instance, a first additional activity is under discussion: Support for the Partnership to nurture the development of Nature-based Enterprises that build on the outputs of research and innovation activity (in relation to Working Area #2 of the Partnership in particular). This work could provide training materials and mentoring to Partnership partners and funded research participants in the development of new business models and products.

Other possible additional activities may be explored in relation to the BiodivERsA database of research and innovation projects and programmes, and its extension to European and national Research Infrastructures on biodiversity, or to communication support to the Partnership. Oppla can also provide an enhanced micro-site for the Partnership giving access to all relevant Oppla content in branded set of custom web pages.

Contact: Jonathan Porter (Oppla)

3.5 APPENDIX 5 – Example of possible engagement of a key collaborator with clear added value to the Partnership: How EKLIPSE/ALTER-Net can support the European Partnership on Biodiversity and vice versa

Rationale: The **EKLIPSE** mechanism, which will be managed by ALTER-Net from mid-2020 onwards, coordinates innovative and transparent approaches for science, policy and societal actors to jointly provide the best available evidence contributing to better informed decision-making. Since its start in February 2016, it has opened four calls for requests and received 40 requests from policy and societal actors to provide trustworthy evidence, often on contentious policy-relevant issues. Thirteen of these have been selected and addressed, with outcomes (evidence) publicly accessible. The type of requests received by **EKLIPSE** strongly aligns with the objectives under the Biodiversity Partnership, hence strong collaboration is envisaged to increase synergies and avoid duplication.

Free support:

Through its ongoing and planned activities (largely paid for by different type of requesters), **EKLIPSE** will contribute to the Partnership:

1) as a recognized knowledge hub and science-policy interface: the **EKLIPSE** processes will be of relevance for the Partnership to highlight research recommendations, knowledge needs of policy and other societal actors, and approaches to improve the science-society-policy interface. This could be done when organizing capacity-building events, horizon-scanning activities, and developing an evidence-based database.
2) as communication hub: Through its Network of Networks, **EKLIPSE** will contribute to communicate the needs and outputs of the Partnership to relevant audiences.

Additional Support (implying contracting EKLIPSE as a key collaborator):

The **EKLIPSE** mechanism could contribute in particular to Working Area #3 objectives of the Biodiversity Partnership, most notably by supporting policy makers and other decision-makers on a "request-driven" basis, thus requiring additional resources. This could include requests from the Biodiversity Partnership for synthesizing available scientific knowledge on issues of policy and societal concern using one or more methods of knowledge synthesis. In such cases, **EKLIPSE** would use its robust processes and extensive network to ensure that the best people, knowledge and expertise from across Europe are mobilized.
In addition, also on a request driven-basis, **EKLIPSE** could also contribute to other Working Areas under the Biodiversity Partnership by identifying current and future emerging issues (Working Area #1), and organizing stakeholder engagement and capacity building workshops (transversal Working Areas),.

Contact: Marie Vandewalle (EKLIPSE/ALTER-Net)

3.6 APPENDIX 6 – Example of possible engagement of a key collaborator with clear added value to the Partnership: How WCMC Europe can support the European Partnership on Biodiversity and vice versa

Rationale: WCMC (Europe) asbl is a newly established partner organisation of WCMC - a UK-registered charity that works in collaboration with UNEP, and with scientists and policy makers worldwide to place biodiversity at the heart of environment and development decision-making. WCMC Europe can develop capacity on:

1. Biodiversity information systems addressing data access, data management, data processing
2. Policy analysis and advising policy, strategy and plan development to support policy development so that it is consistent with international environmental agreements
3. Building relationships between different decision makers to integrate biodiversity into development/sectoral planning
4. Spatial planning, scenarios and modelling allowing the visualisation of trade-offs and potential synergies between competing land and marine uses and resource patterns
5. Facilitating the sharing of skills and knowledge on biodiversity and natural capital through training, guidance materials and developing networks and partnerships

All of these align with activities across the different Working Areas of the European Partnership on Biodiversity.

Free Support:

WCMC Europe can make available to the European Partnership on Biodiversity the recent work on indicator trends in Europe (EU indicator extrapolations as input to the European Biodiversity Outlook), ecosystem services in Europe (OPERAS, ESMERALDA), mapping biodiversity in Europe (MAES), protected areas in Europe (World Database on Protected Areas), protected areas effectiveness in Europe (BIOPAMA), timber trade in Europe (EU Timber and FLEFT Regulations Support), wildlife trade in Europe, possible nature futures in Europe, novel remote sensing products (ECOPOTENTIAL) including essential biodiversity variables derived using remote sensing (ESA funding 2017-2019) and provision of a range of services in the area of natural Capital Accounting and Ecosystem Assessment. European data layers cut from the material already provided to the UN Biodiversity Lab or JRC DOPA tools. This will be particularly relevant to Working Area #1 (knowledge and date on biodiversity status and dynamics, drivers and levers of action) and Working Area #3 (connecting R&I programmes, results and experts to policy). While the outputs from these numerous projects are in the public domain, some additional work (identified below) is necessary to consolidate them.

Additional Support (implying contracting WCMC Europe as a key collaborator):

With additional resources, **WCMC Europe** could provide more tailored support to the European Partnership on Biodiversity. This would be in addition to the free support (listed above), but would build upon it, and could include – amongst others:

1) Review the goals, targets and indicators developed for the post 2020 global biodiversity framework of the Convention on Biological Diversity and assess how these might be applied within the context of the EU and EEA areas. This would include proposing how gaps in data to measure progress could be closed and how a variety of the existing products could be repurposed for this task.
2) Building on ongoing work for business (such as commodity companies, investment banks, mining and oil and gas companies) to bring together materials that can help EU countries and companies define 'science-based targets' with associated indicators. This will to help measure progress towards biodiversity in addition to climate targets.

3) Building on ongoing work within the 'Bending the Curve consortium'[54] to develop EU specific targets and actions that would be required to 'bend the curve of biodiversity loss' into something more positive in these countries[55].
4) Building on ongoing work at the EEA and work of the **UNEP-WCMC** 'TRADE Hub' project to bring together the best options for the EU and its member states to measure the embedded biodiversity (in addition to climate) impacts in the international trade coming into EU nation states.
5) Further developing **UNEP-WCMC** Encore work that builds natural capital related risks into financial decisions through an understanding of economic sector impacts and dependence on nature. Investments and financial decisions could be analysed for their positive and negative consequences on progress towards meeting the post-2020 Global Biodiversity Framework.

Contact: Dominic Parker (Senior EU representative, UNEP-WCMC)

[54] https://www.unep-wcmc.org/news/bending-the-curve-of-biodiversity-loss
[55] http://ec.europa.eu/research/pdf/4_science_forum/participants_agenda_science_forum_19112018.pdf

3.7 APPENDIX 7 –List of the potential members for the co-funded European Partnership on biodiversity

[list under construction]