

Key Messages for discussion during the conference

As part of the movement among the biodiversity community to participate in the development of the EU post 2020 Biodiversity Strategy, we have gathered and refined a collection of key messages (KMs) for the post-2020 Biodiversity strategy from the scientific community. A KM is an action oriented statement, composed of: (i) title; (ii) a recommendation for the EU commission; (iii) rationale, justification, context; (iv) links with the EU 2020 biodiversity strategy. Based on your expertise, you can contribute by giving your opinion on the KMs that will be gradually selected and proposed to the European Commission at the end of 2019. This is a dynamic process: we have already received and refined 16 key messages based on comments received, some key messages will be removed, some will evolve, some new ones may appear and some will remain the same.

These key messages are now ready to be discussed at the ALTER-Net/EKLIPSE conference here Ghent – please find them below. We **welcome your input on these key messages during the conference** (we will let you know all options for doing so in plenary) by:

- **commenting on the key-message posters** (with post-its: writing your name, email, the KM number, and comment as clearly as possible);
- **commenting online** (<http://old.soorvey.com/?s=3DC6HQYLIRNQYL>);
- or getting in touch with one of the editing team (they have red stickers on their badges).

Please get involved!

KM1d¹: Biodiversity Strategy / Climate change. Some action is required by the EC for more systemic changes in biodiversity conservation policies in the light of climate change. The 2020 Biodiversity strategy and previous EU Nature policies (esp. the Habitats directive) have been developed with no consideration on climate change. This context has changed and some voices have proposed to re-think and re-evaluate e.g. protected area networks in general and Natura 2000 in particular in the light of on-going climate change. This has partly been taken into account by the EC through its guidelines on Climate Change and Natura 2000. Further new actions taken by the EC could include: jointly rethinking different actions (e.g. Habitats Directive and the Green Infrastructure strategy) in the light of climate change; revising the Habitats directive, e.g. incorporating the possibility that habitat types within a site may be adapted as climate change demands so; establishing the network more coherently across boundaries instead of establishing it independently within each EU member state; considering protecting non pristine sites with high ecological potential (climate change, connectivity...).

Link with EU Biodiversity strategy: whole strategy, with a specific focus on Target 1, esp. Action 1.

KM2d: Monitoring and evaluation. Monitoring trends in biodiversity and ecosystem services are necessary for: the implementation of policy, for example by assessing progress towards policy targets; evaluating the effectiveness of specific policies; informing the development of new nature conservation policies; and enabling the mainstreaming of biodiversity in other policy sectors. Although many species and habitats are already monitored, recent evidence of declines in insect abundance, for example, have shown that not all taxa are adequately monitored, including those assumed not to be endangered. Thus there is a need to ensure that reporting is based on adequate monitoring across all taxa and biogeographical areas and includes sufficient data in terms of quantity and quality to allow vigorous evaluation of policies such as the Habitats Directive and Natura 2000. Data from LIFE and other EU projects could be incorporated in monitoring programmes because of their data on the conservation status of some species, although there needs to be recognition that not all Member States have sufficient resources and the data from some countries may not be up to date. Monitoring of biodiversity should be adequately supported by experts, including taxonomists, and the latest developments in species identification. Equally important is the need for collecting and synthesizing social science data along with environmental data in order to produce knowledge useful for developing, implementing and evaluating policies and practices related to the conservation of biodiversity and the sustainable use of ecosystem services. These data should include change in societal attitude, and effectiveness of education related to biodiversity.

Link with EU Biodiversity strategy: Target 1, esp. Action 4.

¹ Please do not get distracted by the letters after the numbers. These indicate the evolution of the particular KM: we started with a formulation of KM1, but changed it into KM1a, KM1b, KM1c, KM1d according to the input received.

KM3e: Core drivers of biodiversity loss and integration across sectors. Better integration across sectors is needed because the direct drivers of biodiversity loss (including climate change, habitat degradation, loss of functional connectivity and alien invasive species) are the consequence of indirect, or core, drivers such as human population density and the consumption of resources, particularly in agriculture, forestry and fisheries. There needs to be greater recognition of the relationships between human activity and biodiversity across all policy sectors and across relevant spatial and temporal scales in order to make a greater effort in mainstreaming biodiversity, thereby transforming all relevant policies. Improved coordination across sectors would enable better consideration of biodiversity and ecosystem services, taking trade-offs between different policy and economic sectors into account. There is, for example, ample room for further exploiting this potential for the agriculture, urban planning, water use and fisheries sectors and forestry. An example of the latter is the need to consider the impact on biodiversity of renewable energy policy implemented through bioenergy fuelwood. Regarding an economy-wide perspective, this includes measuring national welfare using economic indicators that take into account the diverse values of nature. Ecological fiscal reforms would provide integrated incentives and provide leverage to redirect activities that support sustainable development.

Link with EU Biodiversity strategy: new target.

KM4d: Biodiversity and ecosystem services are a condition for human activities and quality of life and should be valued as such. Policy should change from an approach in which human use is merely asked to take conservation into consideration to making it an obligatory measure for development activities across sectors. Biodiversity and ecosystem services are not a sectorial business but the fundamental baseline condition for all human activities and human quality of life. As expressed in the UN Sustainable Development Goals, biodiversity and ecosystem services are the foundation of all potential human activities and quality of life rather than a means to sectorial goals that benefit a small minority of people and so it should be treated accordingly. This urges for the maintenance of biodiversity and ecosystem services despite all kinds of human use and exploitation of natural resources. Although the 2020 strategy addresses certain major sectors to be more sustainable, also other human uses of resources should be judged according to their impact on biodiversity and ecosystem services.

Link with EU Biodiversity strategy: Targets 2, 3, 4, and 6.

KM5c: Mind-set changes for biodiversity and ecosystem services. Reversing the on-going biodiversity and ecosystem services decline is hampered by the disconnection between human and nature because of technological and cultural processes among others. People migrating to urbanized areas, buying their food directly in supermarkets and having their jobs and daily life not in direct contact with nature get distanced to the meaning and origin of biodiversity and its benefits to people. To enable the reversion of the on-going biodiversity loss and ecosystem services degradation a change in human mind-sets is needed. The EU strategy so far does not (sufficiently) include measures to establish a general change in (European, global) mind-setting, focusing on consumption decline, environmental respect, awareness of human dependence of biodiversity and ecosystem services, awareness of limits to growth, awareness of the advantages of cyclic approaches, etc. Possible solutions for this could be the integration of transdisciplinary approaches based on social learning for sustainability, inclusion of topics such as ecology and environmental management in primary and secondary school curriculums and coupling human information, knowledge systems within Social-Ecological Systems Changes, and inclusion of behaviour economics. These examples all play a key role in transforming behaviours and institutional practices.

Link with EU Biodiversity strategy: Targets 2, 3, and 4.

KM 6b: Restoration of ecological functions should be part of the scope of European Directives, particularly those affecting biodiversity and ecosystem services, as it provides an important nexus for the management of ecosystems. This echoes that the decade 2021 to 2030 has been declared by the UN the decade on Restoration. This requires some research on the link between biodiversity and ecosystem services through ecological functions and subsequently a refinement of the notion of healthy ecosystems.

Link with EU Biodiversity strategy: Target 2.

KM7c: European and global policies. Europe should take a leading role in establishing an improved global policy on biodiversity. European policy on biodiversity has been based on the recognition that biodiversity and the drivers affecting it have to be dealt with at an international scale, not only at the European scale but also globally, recognising the (downscale) impact of international decisions on local biodiversity and vice versa. The development of European policy on biodiversity must therefore be done in close collaboration with the UN

Convention on Biological Diversity (CBD). In so doing, the European Union should not simply follow the example of global policy developments but take an ambitious lead to halt the loss of biodiversity. It should learn from best practice everywhere, but not limit itself from a lack of vision and ambition.
Link with EU Biodiversity strategy: Target 6.

KM8c: Research and knowledge-informed decision-making and implementation. Institutional mechanisms for effectively compiling and applying scientific and other types of knowledge for conservation practice should be embedded into the Biodiversity Strategy. Policy development, implementation and assessment must be informed by the best available knowledge, both from scientific research and from local and indigenous knowledge (as highlighted in the assessments of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem services – IPBES). It also requires the cooperative engagement of decision-makers, relevant knowledge holders and society as a whole. An effective Biodiversity Strategy must therefore include a knowledge strategy that promotes new research (including transdisciplinary research), knowledge synthesis and the development of policy options. In addition, such a strategy should make use of mechanisms that support knowledge-informed decision-making, such as EKLIPSE, and should include details of how policy-makers will actively incorporate this knowledge into practice.
Link with EU Biodiversity strategy: Knowledge and Data.

KM9b: Importance of multi- inter- and trans-disciplinary research. Research on biodiversity and ecosystem services benefits both from high level disciplinary researches and from interdisciplinary and transdisciplinary approaches. Given the complexity of the basic problem of biodiversity and ecosystem services decline, as many as possible of the relevant scientific disciplines should both deepen and cooperate to gain insight in the interactions of all factors. This includes e.g. life sciences, social sciences, humanities, engineering and many other disciplines. Transdisciplinarity, i.e. engagement of citizens, field practitioners etc., is of great significance in improving the insights in these interactions and key to achieve sustainable development, but should be treated with caution to avoid promoting own interests.
Link with EU Biodiversity strategy: Knowledge and Data.

KM10a: Decoupling economic growth from environmental degradation. The new EU biodiversity strategy should stimulate policies that decouple economic growth from environmental degradation. Economic growth is generally not decoupled from environmental degradation. Economic growth, as measured through traditional gross domestic product (GDP), across Europe and Central Asia has indirectly reinforced drivers of biodiversity loss, which in turn has reduced ecosystem services. Although a range of policies, including environmental taxation, have been implemented to decouple economic growth from detrimental drivers, there still exist policy instruments, such as harmful agricultural and fishing subsidies, which continue to impede transitions towards a sustainable future. This decoupling would require a transformation in policies and tax reforms across the region. Decoupling would be assisted by new indicators that incorporate well-being, environmental quality, employment and equity, biodiversity conservation and nature's ability to contribute to people.
Link with EU Biodiversity strategy: new target.

KM11a: Increasing participation and stakeholder involvement in management. Increasing participation and stakeholder involvement will help to integrate various forms of knowledge in policy- and decision-making while promoting shared responsibility and transparency of decision-making. Engagement and participation should be multidirectional in the sense that environmental research, policymaking and management actively involve researchers, local people, policymakers and other stakeholders. Engagement should however not be a given, but rather carefully planned and designed in order to ensure it improves the quality of environmental management and decision making. This involvement can be strengthened by careful monitoring and evaluation (see KM2), taking various values into consideration, including those of indigenous peoples and local communities.
Link with EU Biodiversity strategy: new target.

KM12c: Incorporate regional/transnational processes and long-term temporal scales to enhance success and efficiency of biodiversity policy. Policy and management (biomonitoring, restoration, conservation) should incorporate large temporal scales and regional processes (including transnational aspects when relevant) to enhance success and efficiency of conservation and restoration of biodiversity and ecosystem services. To date, most if not all management practices and the underlying legislation and policies for ecosystem management are based on local scale processes. However, the meta-ecosystem paradigm, which emerged in the past decade,

acknowledges that both local (i.e. environmental filtering and biotic interactions) and regional (i.e. dispersal and spatial flows of material and energy) processes interact to determine the spatial organization of populations, communities, and ecosystem processes in a given landscape.

Link with EU Biodiversity strategy: Targets 2 and 6.

KM13b: Natures based solutions (NBS) and conservation for sustainable development. A better integration of socio-economic aspects and values together with ecological values in conservation projects under the framework of nature-based solutions would improve the acceptance and effectiveness of these initiatives, solving at the same time societal and biodiversity challenges. For example European programs that promote biodiversity and its conservation and the funding instruments only include local development objectives as secondary added to objectives focused on species and habitats. This makes it challenging for the local communities to relate to conservation and sustainable development, creating a rejection of these projects and blocking positive synergies. Nature based solutions offer ways to address simultaneously societal and ecological needs when designed in an environmentally sustainable manner.

Link with EU Biodiversity strategy: <https://ec.europa.eu/research/environment/index.cfm?pg=nbs>

KM14b: Inter-generational sustainable transformations. A Biodiversity Strategy should be visionary and incorporate the responsibility towards future generations through new models for participatory processes and thus explicitly include the engagement of the younger generations also recognizing the efforts and experience of previous generations to safeguard the ethical foundations for decision-making across generations. Currently, youth worldwide protest against climate and environmental change. They indicate clearly that they have lost patience with politicians' plans and miss action. The Biodiversity Strategy targets implicitly will benefit the future generation(s), but solutions are often sought within the current socioeconomic setting with not enough consideration of other value systems such as the intrinsic value of biodiversity. The ethical implications of this is that sustainable societal transformations are difficult to realize, as they have to encompass more than one generation.

Link with EU Biodiversity strategy: new target.

KM15b: Design comprehensive biodiversity policy mixes. While mainstreaming biodiversity policies into other sectoral policies is key, there is a crucial gap in designing comprehensive biodiversity policy mixes. Regulation is not the only approach public administrations can take for conservation policies. Through integrating appropriate indicators that make a portion of EU funds conditional on ecological performance, public administrations can directly be incentivized to increase their efforts. The EU biodiversity policy should therefore consider allocating a portion of EU funds to e.g. habitat quality or other management outcomes.

Link with EU Biodiversity strategy: new target.

KM17²: Specificity of Freshwater Biodiversity. We recommend that the new EU biodiversity strategy explicitly address the conservation and sustainable use of inland water ecosystems in all relevant targets. Freshwater ecosystems are a unique and important component of global biodiversity, providing clean water, food, livelihoods, and many other ecosystem services. Freshwaters are often perceived as components of terrestrial ecosystems, leading to their conservation targets being combined with terrestrial targets (e.g. Aichi Target 11). This obscures the distinct threats that inland waters face. Post-2020 targets must explicitly mention inland waters and must avoid viewing the conservation of inland water ecosystems principally in terms of delivery of water. Instead, post-2020 targets should ensure the conservation of freshwater species and ecosystems, and their genetic and functional diversity. Given the integrated nature of freshwater ecosystems and the ecosystem services they provide that sustain human livelihoods, minimum requirements to achieve basic human rights to water should also be addressed.

Link with EU Biodiversity strategy: Targets 1, 2, 6.

² KM16 was deleted, hence the skip to KM17.