

Scientific key messages

"Key message n°1c (KM1c)

Biodiversity Strategy / Climate change. Some action is required by the EC to devise whether more systemic changes would be warranted for biodiversity 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; 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, Protect species and habitats, particularly Action 1: Complete the Natura 2000 network and ensure its good management
http://ec.europa.eu/environment/nature/biodiversity/strategy/target1/index_en.htm"

"Key message n°2b (KM2b)

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; the evaluating the effectiveness of specific policies; informing the development of new nature conservation policies; and enabling the mainstreaming of biodiversity in other policy sectors. Recent evidence of declines in insect abundance, for example, have shown that not all taxa are adequately monitored. 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. 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, Protect species and habitats, particularly Action 4, Make the monitoring and reporting of the EU nature law more consistent, relevant and up-to-date
http://ec.europa.eu/environment/nature/biodiversity/strategy/target1/index_en.htm."

"Key message n°3c (KM3c)

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 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, forestry, water use and fisheries sectors and urban planning. 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.

"Key message n°4c (KM4c)

Biodiversity and ecosystem services are a condition for human activities and should be valued as such. Biodiversity and ecosystem services are not a sectorial business but the fundamental baseline condition for all human activities. As expressed in the UN Sustainable Development Goals, biodiversity and ecosystem services are the foundation of all potential human activity 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. 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.

Link with EU Biodiversity strategy: Target 2, Maintain and restore ecosystems, Target 3, Achieve more sustainable agriculture and forestry, Target 4, Make fishing more sustainable and seas healthier, and Target 6, Help stop the loss of global biodiversity. http://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm#stra

"Key message n°5b (KM5b)

Behaviour change 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 and ecosystem services 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, focussing 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 behaviour economics, inclusion of topics such as ecology and environmental management in primary and secondary school curriculums and coupling human information and knowledge systems within Social-Ecological Systems Changes. These examples all play a key role in transforming behaviours and institutional practices.

Link with EU Biodiversity strategy: Target 2, Maintain and restore ecosystems, Target 3, Achieve more sustainable agriculture and forestry and Target 4, Make fishing more sustainable and seas healthier. http://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm#stra."

"Key message n°6 (KM6)

"Ecosystem functions. Biodiversity and ecosystem services maintenance and improvement benefit from healthy ecosystems. Because ecosystem functions provide a robust link between biodiversity and ecosystem services, restoration of ecological functions should be part of the scope of European Directives, particularly those concerned with biodiversity and ecosystem services.

Link with EU Biodiversity strategy: Target 2, Maintain and restore ecosystems. http://ec.europa.eu/environment/nature/biodiversity/strategy/target2/index_en.htm"

"Key message n°7b (KM7b)

European and global policies. 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, Help stop the loss of global biodiversity.
http://ec.europa.eu/environment/nature/biodiversity/strategy/target6/index_en.htm"

Key message n 8 (KM8)

"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
http://ec.europa.eu/environment/nature/knowledge/index_en.htm
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"Key message n°9a (KM9a)

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.

Link with EU Biodiversity strategy: Knowledge and Data
http://ec.europa.eu/environment/nature/knowledge/index_en.htm ."

"Key message n°10 (KM10).

Decoupling 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. The new EU biodiversity strategy should engage this direction.

Link with EU Biodiversity strategy: new target"

"Key message n°11 (KM11)

Participation and stakeholder involvement in management. Increasing participation and stakeholder involvement will help to integrate various forms of knowledge in policymaking and decision-making while promoting shared responsibility. 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"

"Key message n°12b (KM12b).

Regional scale. 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:

Biodiversity strategy: Target 2, Maintain and restore ecosystems, Target 6, Help stop the loss of global biodiversity. http://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm#stra"

"KM13a

Nature based solutions and conservation for sustainable development. A better integration of socio-economic aspects 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.

<https://ec.europa.eu/research/environment/index.cfm?pg=nbs>

" Key message n°14a (KM14a)

Inter-generational sustainable transformations. 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. 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 to safeguard the ethical foundations for decision-making across generations.

Link with EU Biodiversity strategy: new target"

"Key message n°15a (KM15a)

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.

"Key message n°16 (KM16)

"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: Target 1 - Protect species and habitats Target 2 - Maintain and restore ecosystems Target 6 - Help stop the loss of global biodiversity."
