Mapping and assessing the health of ecosystems and their services in Europe

The EU Biodiversity Strategy to 2020 calls on all Member States to map and assess the state of ecosystems and their services to make informed decisions about the future of biodiversity. An EU project has established a pan-European network and a knowledge base to support such actions.
Target 2 Action 5 of the EU Biodiversity Strategy sets the requirement for an EU-wide map of ecosystems and the services they provide, including climate, clean air and water, food, wood production and leisure. It is designed to be a primary data source for developing Europe’s green infrastructure, a resource to identify areas for ecosystem restoration, and a baseline against which the goal of no net loss of biodiversity or ecosystem services (ES) can be evaluated.

In response to Action 5 requirements, the EU-funded ESMERALDA project created ES mapping and assessment strategies for all 28 Member States, plus Norway, Switzerland and Israel. They delivered a flexible methodology for the mapping and assessment of ecosystems and their services (MAES). “The methodology provides innovative building blocks for pan-European, national and regional MAES studies,” says coordinator Prof. Dr Benjamin Burkhard. “It also provides the foundation for local assessments, including spatial planning, agriculture, land degradation, climate, water and nature policy.”

ES mapping and assessment solutions

By leveraging the expertise of its pan-European partners and their contacts, ESMERALDA mobilised relevant ES mapping and assessment actors of ongoing international, European and national initiatives. The objective was to exploit existing projects, networks, methods and data through workshops and face-to-face meetings. This provided opportunities for improving ES mapping and assessment methodologies and knowledge sharing, as well as for fulfilling commitments under Action 5. The project set up a stakeholder network that includes support groups in each country consisting of representatives from science, policy and practice.

The project team created ESMERALDA MAES Explorer, an online open access guidance tool that provides directions on how to use MAES as required by Action 5. Users can browse through a broad range of products. These include project deliverable reports, scientific open access publications, a textbook on mapping ES, a glossary for ES mapping and assessment terminology, and country and case study factsheets illustrating MAES implementation and applications. Also provided are ES methods application cards focusing on the selection of appropriate methods for the mapping and assessment of one or more ES to answer underlying questions.

An additional feature of the tool is the Methods Explorer to browse the ESMERALDA methods database and collect further information on methods. The interface assists users of ESMERALDA products in finding what they need for MAES implementation.
in their country, region, area or case study. Guidance documents deliver detailed
descriptions of MAES implementation in seven steps.

Tailored MAES guidance for EU countries

According to Prof. Dr Burkhard, several Member States made substantial progress in implementing Action 5 while the project was still ongoing. This was particularly evident for Bulgaria, Germany, Greece, France, Ireland, Malta, Poland, Romania and the Baltic States.

“By sharing experience through an active process of dialogue and knowledge co-creation, ESMERALDA enables all EU countries to achieve the Target 2 Action 5 aims of the EU Biodiversity Strategy,” concludes Prof. Dr Burkhard. “Stakeholders have web tools, methods and approaches to tackle ES mapping and assessment issues.” ESMERALDA successfully mobilised and boosted scientific capacity in several countries, allowing researchers and policymakers to extend their national networks to regional and European scales.

Keywords

ESMERALDA, mapping and assessment, ES, MAES, ecosystems, biodiversity, ecosystem services

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**Project Information**

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