

# Mapping and assessment of ecosystems and their services (MAES)

Leon Braat<sup>1</sup>

<sup>1</sup>Alterra Wageningen UR, Droevendaalsesteeg 3  
6708 PB Wageningen, The Netherlands

Phone: +31 6 18079112

E-mail: [leon.braat@wur.nl](mailto:leon.braat@wur.nl)

The EU Biodiversity Strategy to 2020 "Our life insurance, our natural capital", Action 5 (part of Target 2) states that, "*Member States, with the assistance of the Commission, will map and assess the state of ecosystems and their services in their national territory by 2014[...].*" This was confirmed by the Council in the 19th December 2011 conclusions which urged the Commission and Member States "*to determine the modalities for and scope of these tasks building upon the work carried out by the Member States in view of the short timeframe for initiating this work*".

This paper presents an overview of the current understanding of mapping and assessment of ecosystems and their services as developed in the MAES process (Mapping and Assessment of Ecosystems and their Services). This process is part of the implementation of Action 5 of the EU Biodiversity Strategy, where biophysical mapping and assessment is the first step towards management and sustainable use of ecosystems, the associated biodiversity and the ecosystem services provided by them. The premise is that social and economic values are depending on well-functioning ecosystems and adequate management. Without the maps and scientific assessments, management cannot be adequate, and values will be lost. The process involves all EU Member States, in principle through the Working Group MAES membership, with the request to extend their information on the process and (interim ) results in achieving Action 5. In addition Norway, Switzerland and others sometimes contribute. As part of MAES a EU wide study was conducted to examine the status of EU reporting and data on ecosystems and ecosystem condition, and look at the possibility to use biodiversity data for ecosystem services assessment and vice versa.

Reasons for mapping and assessment of ecosystems and their services are: The knowledge base to be produced by Action 5 is necessary to decide on what ecosystems to restore with priority and where, including decision-making on Green Infrastructure (Action 6). It is dependent on the availability of spatially explicit information on ecosystems and the flow of their services as benefits to the society. Spatial information on the delivery of and the demand for ecosystem services will provide baseline data to measure net future gains or losses (Action 7)

and will support the development of financial instruments to fund investments in nature (Action 7). And: Spatially explicit ecosystem assessments are useful for prioritization and problem identification, maps can also be used as a communication tool to the public.

The situation in the EU, generalised across all Member states, is that, as of today, a vast majority is currently in the process of implementing or developing activities which can be considered part of Action 5. Some countries have completed a national scale mapping of ecosystems, many have regional case studies, which may be considered pilots for national level mapping. Several are building on Natura 2000 activities. Overall, biodiversity conservation ambitions are important in many of the mapping activities.

In several countries specific ecosystem or sectoral (ecosystem service) studies are being conducted. Regarding the mapping and assessment of ecosystem services, the situation is that many Member states governments are involved in starting and supporting in some way scientific research projects both at national and regional level. All in all, it would seem that the MAES process is achieving results and that continuing support (as mentioned in the Action 5 text) will be necessary to assist the Member states. Stakeholders are involved in many of the case studies and planning in several of the EU Member states. Involvement is not following a particular pattern. In several cases the scientific community, guided by the policy departments is taking the lead and stakeholders are included to test outcome. In other cases, stakeholders are consulted as part of the policy process.

In view of the topic of the conference: Ecosystem services are addressed following any of the three currently widely available classifications: Millennium Ecosystem Assessment (MA), The Economics of Ecosystems and Biodiversity, and Common International Classification of Ecosystem Services (CICES). In all of them, abiotic goods and services are part of the distinguished ecosystem services, but only few are "abiotic only": (purified) water for drinking and other purposes and clean air. Sediments are not (yet ) mentioned at all.