Further development of CICES

(Common International Classification of Ecosystem Services)

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Origin and purpose:

CICES was developed through a process of consultation with international science and policy communities as a contribution to the work being led by the United Nations Statistical Division (UNSD) on integrated environmental and economic accounting. The main institutional sponsor of CICES is the European Environment Agency (EEA) which supported the drafting of classification proposals and expert meetings accounting from 2009 onwards. After a number of consultations and versions the current framework became available for use and testing in January 2013 as CICES V4.3. An interim version of CICES is included in the SEEA 2012 handbook on experimental ecosystem accounting to illustrate the classification of ecosystem services (see table 3.1).

The development of CICES took the definition of 'ecosystem services' provided by the Millennium Ecosystem Assessment (MA, 2005) as starting point and modified it to take account of recent research results and adjust it to the accounting purpose. The consultation and discussion on CICES 4.3 enabled a comprehensive review of ecosystem services, took account of natural science input and aimed for a clear hierarchical scheme to allow summing up yet avoid double counting as far as possible. This was done with the ecosystem service 'cascade model' and draft SEEA EEA guidance in mind to identify final ecosystem services and avoid the inclusion of intermediate services as far as possible.

The major groups of ecosystem services under CICES consist of three main types:

- Provisioning services, e.g. biomass, water, fiber, crops and livestock;
- Regulation and maintenance services, e.g. soil formation and composition, pest and disease control, climate regulation;
- Cultural services, e.g. the spiritual and symbolic settings represented by ecosystems, landscapes and seascapes, and the physical interaction with them for recreation.

Further information on the development of CICES and the full CICES ecosystem service classification can be found under: www.cices.eu.

Current use within Europe (and beyond)

Although it was developed as input to ecosystem accounting, CICES has also proved to be useful for those concerned more generally with mapping and valuing ecosystem services. In Europe CICES has been adopted as the basis of the EU process on 'Mapping and Assessment of Ecosystems and their Services' (MAES), led by the European Commission to achieve ecosystem accounting commitments under Action 5 of the EU Biodiversity Strategy to 2020. Thus it also forms part of the methodological basis for a joint EU knowledge innovation project on 'Accounting for ecosystems and their services' which aims to develop a proposal for an integrated EU ecosystem accounting system.

Large-scale research projects financed by the European Union, such as OPERAS, OpenNESS and ESMERALDA utilise CICES as their main ecosystem service classification system which ensures that a substantial experience with its practical application has already been gathered. In this context it is advantageous that CICES was developed not to replace other classification systems but to provide different communities with a common reference point that could help them both translate between systems and construct their own nomenclatures in such a way that it could be understood by others. Building on CICES, the OpenNESS project has developed a prototype translator to help people navigate between different ecosystem service nomenclatures, such CICES, MA, TEEB, etc.

Within Europe, CICES V4.3 is now widely used within the research community and in the EU MAES process as a practical way of referencing ecosystem services and defining indicators and metrics used in their assessment. It is also beginning to be used internationally, for example in work supported by WAVES. Furthermore, in the context of IPBES (the International Platform on Biodiversity and Ecosystem Services), CICES has been proposed as a tool to support international assessments from global to local scales.

Considerations for the further development of CICES

The consolidation of an international classification of ecosystem services for use in ecosystem accounting is one goal of the UN Statistical Division over the coming years. The experience gathered in the development and use of CICES will be the European input to that process. At the same time, the lessons learned from the discussions at international level will feed back into the further development of CICES, together with insights gained from practical applications in Europe.

In cooperation with the EU research teams listed above and the EU Joint Research Centre, the EEA is planning a number of practical actions to further improve CICES for use in a European context:

a) An internet survey among users on strengths and weaknesses of CICES – this would harvest experience from 3 years of application and also be open to feedback from outside Europe;

b) Revising the marine component of CICES in the context of work by the EEA to describe marine ecosystems and their services in European seas;

c) Drafting a user manual for CICES in cooperation with the OpenNESS team, with a focus on: (a) identifying indicators and metrics for services; (b) explaining how to disentangle notions of 'intermediate services' from underpinning functions, processes and structures; and, (c) handling data about beneficiaries, benefits and values;

d) Exploring how CICES can be linked to classifications of beneficiaries, ecosystem habitat types and ecosystem service indicators;

e) Exploring how CICES categories can be cross-linked to international classification systems for goods and activities, such as the International Standard Industrial Classification of All Economic Activities (ISIC), the Central Products Classification (CPC), and the Classification of Individual Consumption by Purpose (COICOP).

As sponsors of a system that is called a 'Common International Classification' EEA and its partners would like to contribute to the work of UNSD on developing an international ecosystem service classification for use in ecosystem accounting. We hope that the experience in building and using CICES can play a central role in that process.