

BOOK OF ABSTRACTS

This Book of Abstracts provides a comprehensive overview of the session content and is structured into three main sections:

- I. **Session Description** – an introduction to each session, including its objectives and expected outputs
- II. **Session Program** – a detailed schedule for each session, including speakers and timing
- III. **List of Abstracts** – a complete compilation of all accepted abstracts

I. SESSION DESCRIPTION

ID: T7e

Mainstreaming the system of environmental-economic accounting for enhanced policy and innovative finance solutions

Hosts:

	Name	Organisation	E-mail
Host (s):	Professor Dr Paulo Augusto Lourenco Dias Nunes	Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF)	p.augusto@cifor-icraf.org
Co-host(s):	Luke Brander		
Other organiser(s):	Andy Seidl		

Abstract:

Today, more than ever, we recognize the importance of having policy-relevant, climate change and ecosystem services data that is integrated with economic data and can support economic and environmental policy as well as stimulate private finance. Implementing, and mainstreaming, such a policy-relevant data infrastructure will play a key as the accelerator for redesigning macro-economic policy, including exploring the role of carbon tax on fiscal policy and price stabilization. In addition, this policy-relevant Environmental-Economic data infrastructure will stimulate innovative corporate finance solutions. Ultimately, also contributes to bridging the over 5 USD trillion financial flows gap for restoration, biodiversity and climate finance future requirements to meet 2030 goals.

The System of Environmental-Economic Accounting (SEEA) is the sole framework that is recognized as the international statistical standard by the United Nations Statistical Commission, and its Member States, to bring together economic and environmental information and to produce internationally comparable statistics and therefore have a unique position in this landscape, i.e., in producing policy-relevant data infrastructure. It is a multi-purpose statistical framework allowing for informing complex policy questions on the interface between the economy and the environment in a coherent and internationally comparable manner.

Goals and objectives of the session:

Successful submissions will explore solutions that highlight one or more of the following:

- Improvements in the efficiency of policy or program delivery toward specific ecosystem services and sustainable development outcomes;
- Reallocation or re-alignment of existing investments and finance incentives to increase the efficiency of achieving specific biodiversity and ecosystem services outcomes;
- National, regional, or local policy design and implementation to avoid future costly biodiversity and ecosystem services losses;
- Innovative resource mobilization strategies toward bridging a specifically identified biodiversity

- finance gap toward sustainable development objectives;
- Innovative valuation and assessment methods developed to support the process of decision-making and architected to meet specific policy demands;
- Remote sensing, ecosystem service mapping, and ecological-economic modeling: applications for development of specific biodiversity and ecosystem services outcomes.

Planned output / Deliverables:

Input for a special issue

Related to ESP Working Group:

TWG 7 – Economic & Monetary valuation

II. SESSION PROGRAM

Room: B1

Date of session: Wednesday 20, May 2026

Time of session: 15:00 – 16:30

Timetable speakers:

Time	First name	Surname	Organization	Title of presentation
15:00-15:05	Luke	Brander	Leibniz University Hannover	Introduction
15:05-15:20	William	Voorberg	Naturalis Biodiversity Center	Mainstreaming Biodiversity: Exploring challenges and opportunities
15:20-15:35	Niels	Schoffelen	National Institute for Public Health and the Environment (RIVM)	Mapping Soil Sealing and the provision of ecosystem services
15:35-15:50	Sigita	Purona-Sida	Central Statistical Bureau of Republic of Latvia	Engaging Society in Assessing Latvian Ecosystems and Observing Global Climate Change: Integrating Citizen Science into Official Statistics
15:50-16:05	Alethia	Cameron	UN Food and Agriculture Organisation (FAO)	A Framework for Classifying Public Expenditure on Forests and Natural Capital with an Application to Uganda
16:05-16:20	Lydia	Olander	Duke University	A Roadmap for Natural Capital Data and Methods: Advancing U.S. Environmental-Economic Accounting
16:20-16:30	Luke	Brander	Leibniz University Hannover	Discussion


III. LIST OF ABSTRACTS

The first author is the presenting author unless indicated otherwise

1. Mainstreaming Biodiversity: Exploring challenges and opportunities

First author: William Voorberg

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Mainstreaming biodiversity is a central priority within the Global Biodiversity Framework (GBF), particularly under Targets 14–23 (CBD, 2022). Despite this prominence, biodiversity mainstreaming remains poorly conceptualized and, as a result, weakly implemented in both public policy and private-sector practice. A key challenge lies in the absence of a well-substantiated framework that clarifies:

- What biodiversity mainstreaming encompasses;
- Which factors drive successful mainstreaming;
- How success in biodiversity mainstreaming can be defined and assessed.

We argue that before determining what should be mainstreamed—such as environmental-economic accounting or biodiversity metrics—it is essential to first understand how effective mainstreaming occurs. This research addresses that gap by conducting a systematic literature review, synthesizing existing insights and identifying areas where further empirical research is needed. Following the conceptualization of Karlsson-Vinkhuyzen et al. (2017) who distinguish between two core approaches:

- Horizontal mainstreaming, which occurs through partnerships and public-private collaborations, promoting voluntary integration;
- Vertical mainstreaming, which involves regulations, and internal corporate commitments, ensuring biodiversity is institutionalized within organizations.

Our starting point is that if policies are to be efficiently designed in a way that includes ecosystem services and sustainable development outcomes (i.e. mainstreaming), there must be a clear understanding of the methods, strategies, and actions that enable such inclusion. From this perspective, we argue that innovative valuation and assessment tools that inform decision-making function both as enablers of effective mainstreaming and as outcomes of successful mainstreaming processes. In this presentation, we explore these dynamics and outline several key characteristics of effective biodiversity mainstreaming.

Keywords: Mainstreaming biodiversity; policy; policy design; vertical and horizontal mainstreaming

2. Mapping Soil Sealing and the provision of ecosystem services

First author: Niels Schoffelen

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Our soils contain some of the most important ecosystem services, providing food, clean water and reduced flood risks. However, in urban environments a large fraction of soils is “sealed” by buildings and infrastructure, leading to the loss of soil functions and ecosystem services.

Driven by the EU Soil Monitoring Directive, adopted in 2025, member states are required to monitor soil sealing and determine the impact on ecosystem services.

With the use of aerial imagery and spatial modeling techniques we created a soil sealing map and combined this with information on opportunities for improving soil ecosystem services. By categorizing the different types of soil sealing like parking spaces, buildings, etc., we also add context on which sealed soils are probably easily converted. This way we provide insights to local authorities where opportunities exist to “unseal” soils and showcase which ecosystem services they get in return.

Keywords: soil sealing, mapping ecosystem services, EU Soil Monitoring Directive


3. Engaging Society in Assessing Latvian Ecosystems and Observing Global Climate Change: Integrating Citizen Science into Official Statistics

First author: Sigita Purona-Sida

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Affiliation: Central Statistical Bureau of Republic of Latvia

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Recognizing the importance of society at the local level in assessing the condition of ecosystems and consulting global Climate Change Observations, the Central Statistical Bureau of Republic of Latvia has initiated cooperation with phenology researchers and Latvian Schools. By developing a Climate Change Dashboard, by includes international, regional and local indicators, Official Statistics are supplemented with experimental statistical sources, giving the public the opportunity to participate in data collection - by providing data on phenological observations in their surroundings.

Keywords: social science, experimental statistics

4. A Framework for Classifying Public Expenditure on Forests and Natural Capital with an Application to Uganda

First author: Alethia Cameron

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Over half of global gross domestic product (GDP) depends on natural capital (World Economic Forum, 2020), yet these assets and their ecosystem services remain absent or undervalued in public budgets and expenditure analysis. While recent advances in natural capital accounting, notably the System of Environmental-Economic Accounting (SEEA), provide a conceptual basis for integrating natural capital and ecosystem services into economic analysis, no methodology currently classifies public spending on natural capital in a systematic way across countries and time that is suitable for analyzing synergies and trade-offs, particularly within the agriculture, forestry and rural development subsectors.

This paper proposes a methodology linking SEEA principles with public expenditure analysis. The approach builds on the Monitoring and Analysing Food and Agricultural Policies (MAFAP) framework, which covers agriculture, forestry, and fisheries—sectors characterized by their heavy reliance on natural capital and ecosystem service inputs as well as value chains. The methodology refines the MAFAP classification to better capture expenditures related to commercial forestry, forest conservation, and other ecosystem assets. It introduces new expenditure categories aligned with the SEEA Central Framework and SEEA Ecosystem Accounting, enabling improved identification and classification of forest and natural capital-related spending that is often fragmented in standard public accounting systems. Using SEEA logic linking ecosystem assets, ecosystem services, and beneficiaries, the methodology distinguishes agriculture-specific from agriculture-supportive expenditures on natural capital and incorporates payments to producers for ecosystem service provision, classified as input-, process-, or output-based payments.

Additionally, the methodology introduces an outcome-based classification to assess how expenditures contribute to conservation, restoration, and sustainable use objectives. Drawing on the State of the World's Forests (SOFO, 2022) and Green Climate Fund paradigm-shifting pathways, this enables systematic linkage of spending to policy objectives and supports assessments of coherence with governmental commitments. The framework is illustrated through a pilot application in Uganda.

Keywords: Natural capital and ecosystem services, Forests, Agriculture, Public expenditure, Uganda

5. A Roadmap for Natural Capital Data and Methods: Advancing U.S. Environmental Economic Accounting


First author: Lydia Olander

Other author(s): Katie Warnell, Jin Bai, Jahnelle Howe, Ken Bagstad, Sara Mason, Becky Chaplin Kramer

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Following the EU, UK, Canada, Australia and others, in 2023 the US government officially began to work on a "National Strategy to Develop Statistics for Environmental-Economic Decisions: A U.S. System of Natural Capital Accounting and Associated Environmental-Economic Statistics." Building on pilot accounts published in Ecosystem Services in 2022 (Accounting for Natural Capital: lessons learned from applications in Europe and the United States) and scattered advancement on accounts throughout the country, this initiative brought together federal agencies to begin development of formal accounts. The administrative transition in the US and loss of many technical experts in the government has left progress



on this initiative from inside the government uncertain. However, many of the people involved are continuing the needed work by pulling together a roadmap for development of environmental-economic accounts for many services. This roadmap will provide information on the data and methods required for each service for which we can find sufficient data and a feasible methodology to estimate biophysical and economic status and trends and generate SEEA compatible accounts across the nation. An associated working group is developing examples of how the underlying data or accounts can be used to inform public and private sector decision making. This presentation will share the state of the methods roadmap for the US and some initial ideas for how the initiative might make progress including ideas for a national nature data initiative linked to similar global efforts, despite lack of centralized support from the U.S. government.

Keywords: environmental accounting, data infrastructure