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: X3

Ecosystem services assessments in LIFE projects: outcomes, approaches, and lessons learned

Hosts:

	Name	Organisation	E-mail
Host (s):	Davina Vačkářová	Global Change Research Institute CAS	vackarova.d@czechglobe.cz

Abstract:

Ecosystem services (ES) assessments are increasingly recognized as crucial tools for linking biodiversity conservation with socio-economic benefits and policy implementation. The European Union's LIFE Programme, as a major funding instrument for environment and climate action, has supported a wide range of projects that integrate ES concepts into planning, implementation, and monitoring. LIFE projects have long funded the conservation and restoration of nature, and ecosystem services assessments are essential to demonstrate how these actions generate benefits for both biodiversity and society. To support this process, the European Commission developed guidance on how to assess the impacts of LIFE projects on ecosystem services. However, the degree of integration of ES concepts across projects varies widely, as do the methods and indicators applied to evaluate impacts.

This session invites contributions from researchers, practitioners, and policymakers involved in LIFE projects who have applied or advanced ES assessments. We aim to explore methodological innovations, practical applications, and challenges encountered in diverse ecological and socio-political contexts.

By bringing together case studies and project analyses, this session will highlight successes, barriers, and opportunities for embedding ES assessments in LIFE projects. Ultimately, it seeks to strengthen the evidence base for integrating ecosystem services into EU environmental policy and practice, enhancing synergies between conservation outcomes and societal well-being.

Goals and objectives of the session:

This session aims to showcase how ecosystem services (ES) assessments have been applied and advanced within LIFE projects, highlighting their role in linking conservation and restoration outcomes with societal benefits and policy relevance. It will provide a platform for exchanging methodological innovations, practical applications, and lessons learned from diverse ecological and socio-political contexts. Specifically, the session will review the outcomes of ES assessments and the extent of their integration across thematic areas; examine approaches and tools used to evaluate ES impacts in line with or adapted from EU guidance; discuss experiences with stakeholder engagement and the contribution of ES assessments to decision-making and policy uptake; identify successes, challenges, and opportunities for scaling up ES approaches within the LIFE programme and beyond; and synthesize lessons for mainstreaming ES approaches across EU Member States.

Planned output / Deliverables:

The session will generate a synthesis of practical experiences and lessons learned from applying ecosystem services (ES) assessments in LIFE projects. Key outputs will include:

- A summary of methodological approaches, tools, and innovations presented, with reference to their alignment with EU guidance.
- Identification of common challenges and practical solutions for integrating ES assessments into LIFE-funded conservation and restoration actions.
- A set of key messages and policy-relevant insights on how ES assessments can strengthen decision-making and societal benefits within and beyond LIFE projects.
- Recommendations for improving consistency, comparability, and mainstreaming of ES approaches across EU Member States.

The session outcomes will be shared with the ESP community and, where possible, consolidated into a short written synthesis (e.g., a session report or policy brief) to inform future LIFE projects and EU-level environmental policy.

Session format:

The session is planned as a 90-minute interactive format, combining short presentations with structured discussion. It will open with a brief introduction (5 minutes) to frame the goals, followed by 4–5 selected presentations (10 minutes each) showcasing case studies, methodological approaches, and lessons from LIFE projects. After the presentations, a moderated panel discussion (30 minutes) will allow presenters to reflect on common themes and challenges, while engaging with questions from the audience.

Related to ESP Working Group:

Other

II. SESSION PROGRAM

Room: A2
Date of session: Thursday 21, May 2026
Time of session: 09:00 – 10:30

Timetable speakers:

Time	First name	Surname	Organization	Title of presentation
09:00 – 09:05				Welcome and introduction
09:05 – 09:15	Ben	Delbaere	ELMEN eeig	How Europe's environment funding supports cosystem services
09:15 – 09:25	Davina	Vačkářová	Global Change Research Institute of the Czech Academy of Sciences	Synthesis of ecosystem services assessment in the One Nature LIFE project: from biophysical foundations to policy implementation
09:25 – 09:35	Federico	Falasca	University of L'Aquila	Enhancing Natura 2000 Network Connectivity: The Role of Habitat Quality and Degradation Indicators in the LIFE IMAGINE Project
09:35 – 09:45	Martyna	Kuzior	European Regional Centre for Ecohydrology of the Polish Academy of Sciences	Integrating Science, Stakeholders, and Practice: Ecosystem Service Assessments for Water Management in LIFE Projects

09:45 – 09:55	Amaury	Parelle	Office Français de la Biodiversité	Multi-level strategy of Life ARTISAN for skills development and awareness-raising of stakeholders
09:55 – 10:05	Giorgos	Mallinis	Aristotle University of Thessaloniki	A Fire Risk Assessment Framework for Ecosystem Services: Insights from Greece
10:05 – 10:15	Gianmarco	Barone	Roma Tre University, Department of Architecture	LIFE BEEadapt: A pact for pollinator adaptation to climate change
10:15 – 10:25	Jakub	Jehlička	Charles University, Environment Centre	How contextual information shapes public perception of forest management practices in the Czech Republic
10:25 – 10:30				Closing of the session

III. LIST OF ABSTRACTS

The first author is the presenting author unless indicated otherwise

1. How Europe's environment funding supports ecosystem services

First author: Ben Delbaere
Affiliation: ELMEN eeig
Contact: ben.delbaere@elmen-eeig.eu

The LIFE programme is the European Union's funding instrument for the environment and climate action. Created in 1992, much of the funding supports the development and management of Natura 2000, the EU network of protected areas that was established in the same year. This network, and the species and habitats to be protected in association with it, is underpinned by some of the world's strongest conservation policies: the EU Birds and Habitats Directives.

Actions supported through LIFE include development, restoration and management of habitats and ecosystems. Besides nature projects, projects dealing with biodiversity in a wider environment, outside protected areas, and climate change context are also co-funded. Although LIFE Nature projects traditionally focus on the conservation of species and habitats of most interest to the European Community, the concept of ecosystem services and nature-based solutions adds value to their impact.

Here we will present a brief overview of how LIFE projects address ecosystem services and nature-based solutions. Which ecosystem services are most closely linked to the projects? How are they used and assessed? How can the application of the concept help integrate nature into other policy sectors? How can recognizing ecosystem services give access to additional funding for nature conservation? And what does the future bring with respect to linking ecosystem services to enhanced impact of LIFE funding?

Keywords: nature conservation, nature-based solutions, EU funding, mainstreaming biodiversity

2. Synthesis of ecosystem services assessment in the One Nature LIFE project: from biophysical foundations to policy implementation

First author: Davina Vačkářová
Affiliation: Global Change Research Institute of the Czech Academy of Sciences
Contact: vackarova.d@czechglobe.cz

The LIFE Integrated Project One Nature (Jedna příroda) represents a comprehensive national effort to operationalise the ecosystem services (ES) concept in research, practice, and policy in the Czech Republic. This contribution presents a synthesis of ecosystem services assessment approaches developed and applied within the project, spanning biophysical foundations, modelling and toolkits, spatial

mapping, participatory case studies, and policy implementation.
At the biophysical level, the project focused on strengthening the ecological basis for ecosystem services assessment across major ecosystem types. This included the assessment of key biophysical indicators related to ecosystem structure, processes, and condition, which informed the development and application of ecosystem service models and spatial analyses. A range of models and mapping approaches was applied at different spatial scales to visualise the distribution of provisioning, regulating, and cultural services across the Czech Republic, providing spatially explicit information relevant for planning and decision-making. In parallel, targeted valuation studies were conducted to estimate selected ecosystem services using socio-economic and economic methods.
The project further tested ES assessments in participatory case studies across diverse landscapes, involving stakeholders from nature conservation, agriculture, forestry, water management, and local communities. These case studies demonstrated how co-produced knowledge can support context-specific applications of the ES concept, reveal trade-offs and synergies, and strengthen stakeholder ownership of assessment outcomes.
A key outcome of One Nature is the establishment of a National Platform on Ecosystem Services, designed to bridge science, policy, and practice. The platform supports knowledge exchange, methodological harmonisation, and the uptake of ES assessments in policy instruments related to nature protection, land-use planning, and ecosystem restoration. The synthesis highlights lessons learned, remaining challenges, and pathways for embedding ecosystem services in long-term ecosystem services governance.

Keywords: ecosystem services assessment, One Nature LIFE project, mapping and modelling, participatory case studies, science–policy interface

3. Enhancing Natura 2000 Network Connectivity: The Role of Habitat Quality and Degradation Indicators in the LIFE IMAGINE Project

First author: Federico Falasca
Other author(s): Chiara Di Dato, Angela Pilogallo, Lorena Fiorini, Alessandro Marucci
Affiliation: University of L'Aquila
Contact: federico.falasca@graduate.univaq.it

The LIFE IMAGINE project aims to develop innovative strategies for integrated and coordinated management of the Natura 2000 (N2K) Network in the Umbria region. Fostering connectivity of N2K sites and limiting territorial fragmentation are key aspects of IMAGINE. Although the establishment of N2K sites is linked to biodiversity conservation needs, they often become drivers of uncontrolled urbanization processes outside their borders. A relevant topic is also the investigation of the role played by socio-economic factors in defining the elements that fuel environmental degradation and fragmentation. Building a robust knowledge framework about the elements that compose the so-called regional ecological network and the governance processes that drive local land dynamics is important to promote more sustainable development.
Ecosystem services mapping and assessment can be instrumental analyses through which to pursue sustainability policies with the dual purpose of supporting strategic interventions and allowing multi-level monitoring of the effects of local and regional policies.
In this research framework, the work proposes a methodological approach based on changes in ecosystem services as significant indicators of the sustainability of spatial transformation policies and processes.
This paper shows how habitat quality (HQ) and habitat degradation (HD) indicators are used in LIFE IMAGINE supporting and monitoring project objectives.
First, HQ and HD reference values have been evaluated, considering the habitat quality module provided by the InVEST software. Subsequently, attention has been focused on assessing these indicators considering policy change (large scale) and the implementation of targeted interventions (local scale). Results are being used to assess how the LIFE IMAGINE project is improving biodiversity and environmental quality conditions and to provide future trends for the upcoming years.

Keywords: Habitat quality, Habitat degradation, Ecosystem services assessment, local land dynamics, regional policies

4. Integrating Science, Stakeholders, and Practice: Ecosystem Service Assessments for Water Management in LIFE Projects

First author: Martyna Kuzior
Other author(s): Wojciech Frątczak, Kinga Krauze, Renata Włodarczyk-Marciniak, Katarzyna Izydorczyk
Affiliation: European Regional Centre for Ecohydrology of the Polish Academy of Sciences
Contact: m.kuzior@erce.unesco.lodz.pl

Effective water management and enhancing ecosystem service values requires integrating scientific knowledge with practical interventions and active stakeholder participation. The European Regional Centre for Ecohydrology at the Polish Academy of Sciences (ERCE PAN) shows how combining ecosystem assessments, technical measures and capacity building creates a robust framework for implementing water policies and supporting sustainable catchment management.
Our approach emphasises co-producing knowledge, whereby hydrological monitoring, environmental quality analyses and scientific assessments are complemented by stakeholder input. This integration strengthens decision-making processes and ensures that interventions are evidence-based and socially acceptable.
The LIFE Pilica and EKOROB projects exemplify the application of this integrated framework. Employing interdisciplinary methods, they engage with a variety of stakeholder groups, including local communities, policymakers, practitioners, and students. Social research plays a central role in understanding perceptions, experiences and institutional perspectives, informing the design and implementation of management measures. By combining environmental and social data, we can identify barriers and opportunities, optimise interventions and enhance policy uptake.
Within the LIFE Pilica project, monitoring inter-institutional collaboration reveals the mechanisms that facilitate the effective implementation of the Water Framework Directive and national water policies. EKOROB demonstrates innovative nature-based solutions (NBS), including ecohydrological measures, diffuse pollution reduction and demonstration sites. These solutions improve ecosystem health while delivering societal benefits.
ERCE PAN's experience highlights the potential of transdisciplinary education and participatory approaches to build stakeholder capacity, foster knowledge co-production and bridge the gap between science and practice. These lessons offer transferable strategies that can be applied in other European regions, contributing to the advancement of sustainable water management, ecosystem protection and the delivery of ecosystem services.

Keywords: Stakeholder engagement; Policy implementation; Capacity building; Knowledge co-production; Transdisciplinary education

5. Multi-level strategy of Life ARTISAN for skills development and awareness-raising of stakeholders

First author: Amaury Parelle
Affiliation: Office Français de la Biodiversité
Contact: amaury.parelle@ofb.gouv.fr

Life ARTISAN is an 8-year project involving 28 French partners. It is designed to promote Nature-based solutions (NbS) for climate change adaptation throughout France.
Regional facilitation quickly proved to be one of the most significant levers for spreading a “culture of NbS for climate adaptation” among decision-makers and administrative staff. We will present how the network of regional facilitators in the ARTISAN project is disseminating a local NbS culture among local stakeholders (local governments, companies, associations), in conjunction with the national network focused on advocacy activities and equipping actors with tools, training sessions, and events.

We will analyse how the governance and structure of Life ARTISAN have allowed a rise of NbS for climate adaptation and above all an integration of this issue into the roadmaps and adaptation plans of a large range of actors by describing:
- the missions and the means of action of the 14 regional facilitators;
- how their cooperation at the national level has reinforced their competences and their actions;
- the advocacy made by ARTISAN at the national level has influenced the drafting of the third national plan for adaptation.

In a second step we will show how all this work of animation and skills development is fuelled by the monitoring of ARTISAN demonstrator sites, and the various technical, economic and social indicators that are monitored.

Keywords: adaptation, NbS, risks reduction, awareness-raising, regional facilitation

6. A Fire Risk Assessment Framework for Ecosystem Services: Insights from Greece

First author: Giorgos Mallinis
Other author(s): Ioannis, Mitsopoulos, Ioannis Kokkoris, Panayotis Dimopoulos
Affiliation: Aristotle University of Thessaloniki, School of Rural and Surveying Engineering, 54124 Thessaloniki, Greece
Contact: gmallin@topo.auth.gr

In recent years, wildfires in the Mediterranean basin are intensifying due to hotter, drier conditions, fuel accumulation and socioeconomic changes. In Greece wildfires constitute a major environmental threat and are recognized as a key force affecting multiple ecosystem services (ES). This study, conducted in the framework of the LIFE IP 4 Natura project, aims to identify areas with high potential loss of ES by combining wildfire risk patterns with the spatial distribution of ecosystem services. Wildfire hazard was estimated using historical ignition data for the period 2000–2020 and a kernel density estimation mapping approach, in order to identify zones with high fire occurrence. These fire risk zones were subsequently spatially correlated with previously developed ES maps produced within the framework of the LIFE IP 4 Natura project. These maps include spatial indicators representing various ES categories, including biodiversity conservation, environmental quality maintenance, forest products, water resources, and recreation. Spatial analysis techniques were applied to identify areas where high fire risk coincides with high ES value, and by this assess the potential ES losses associated with wildfire occurrences. The results indicate areas where wildfire risk poses a significant threat to ES, highlighting areas that must be prioritized for fire prevention, management, and restoration actions. The combined assessment of fire risk and ES provides a useful tool for supporting spatial planning, risk mitigation strategies, and policy implementation at national and regional levels. This approach contributes to a more integrated understanding of wildfire impacts beyond the “burned area” metric, emphasizing potential losses in ES of high societal, financial and environmental importance.

Keywords: disasters, wildfire, risk assessment, ecosystem services loss, ecosystem service condition

7. LIFE BEEadapt: A pact for pollinator adaptation to climate change

First author: Gianmarco Barone
Other authors: Carolina Pozzi
Affiliation*:* Roma Tre University - Department of Architecture

Contact: Stefano.magaudda@uniroma3.it

Pollinators are increasingly threatened by climate change, habitat fragmentation, and landscape homogenization, with profound implications not only for pollination ecosystem services but also for the socio-cultural and relational values associated with human–insect interactions. Climate-driven phenological mismatches between pollinators and flowering plants are exacerbating population declines, undermining ecosystem resilience, rural livelihoods, and food security. These dynamics call for adaptation strategies that move beyond purely biophysical assessments and explicitly integrate governance, participation, and non-monetary values.This paper presents the methodological framework and preliminary outcomes of the LIFE BEEadapt project (LIFE21CCA-IT-LIFE BEEadapt/101074591), which places wild pollinators at the centre of climate adaptation planning across national, regional, and local scales. The approach combines a spatially explicit risk and vulnerability assessment of pollination-related ecosystem services with an innovative, multi-level governance system designed to enhance ecological connectivity and habitat heterogeneity. Climate risk is assessed using an impact chain approach aligned with the IPCC AR5 framework, decomposing risk into hazard, exposure, and vulnerability, and operationalized through open spatial data and GIS-based thematic mapping. Pollination is framed not only as an instrumental ecosystem service, but also as a foundation for broader non-monetary values,

including landscape identity, stewardship practices, and community well-being.The core contribution of the project lies in its collaborative governance model, structured around a voluntary Pollinators Adaptation Pact at the strategic level and locally grounded Land Stewardship Agreements at the operational level. This integrated system fosters collaboration among public authorities, farmers, environmental organizations, and citizens, translating scientific risk assessments into shared commitments and long-term adaptive actions. By linking scientific evidence with participatory governance, the LIFE BEEadapt model embeds pollinator's protection within meaningful practices of land care.

The proposed framework is scalable and transferable, offering a replicable pathway for addressing pollinator decline while strengthening the social and relational dimensions of adaptation.

Keywords: Pollination ecosystem services, Climate risk and vulnerability, Collaborative governance, Land Stewardship, Climate adaptation

8. How contextual information shapes public perception of forest management practices in the Czech Republic

***First author*:** Jakub Jehlicka
***Other author(s)*:** Katerina Macova, Jan Melichar, Bronislav Farkac, Hana Skopkova, Emily J. Hanson
***Affiliation*:** Charles University
***Contact*:** jakub.jehlicka@czp.cuni.cz

This preregistered study investigates public perceptions of Czech forests managed using close-to-nature practices: specifically coppicing, forest grazing, and deadwood management. Each of these practices poses a potential risk of negative public response: the reintroduction of coppicing and forest grazing produces more open forest environments that are uncommon today and generally less preferred than closed-canopy forests to which most people are accustomed. Likewise, visible woody debris or the presence of grazing livestock may evoke impressions of disorder or danger.
The study examines whether providing contextual information can influence how people perceive forest environments shaped by these management practices. In particular, it evaluates the extent to which information emphasizing (a) the ecological benefits of the practices (e.g., supporting biodiversity) and (b) their historical and cultural significance as traditional forestry methods affects perception among individuals with differing levels of environmental and cultural identity.
We present findings from an online perception experiment conducted with a representative sample of the Czech population (n = 2,200). Participants viewed visual stimuli depicting forest environments under specific management regimes, created through digital manipulation of forest-stand photographs. Contextual information was provided through short texts adapted from real information signs used in protected areas where these practices are implemented.

A pilot study on a smaller sample (n = 142) indicated that coppice forests are the least preferred environment; however, when ecological benefits were highlighted, perceptions of coppicing improved significantly. The follow-up large-scale study further explores the subjective factors that shape sensitivity to contextual information, including environmental and cultural identity, regional background, and the potential role of information complexity.

***Keywords*:** forest management, coppicing, silvopasture, deadwood management, public perception