



Discussion Panel 1: Opening the Scene (60 minutes):

Session concerns panel discussion of 2 panellists moderated by chair to open key workshop topics: (10 minutes presentation each + 40 minutes discussion along following topics)

- Adaptation and Transformation in NBG
- Institutions of NBG
- Transformative Learning and Behavioural change towards NBG
- More-than-humans perspective
- Co-creation

Moderated by Katriina Soini

Title of contribution:	Authors	Abstract:
How can a national	Yves Zinngrebe, Elsa Cardona	The failure to meet global and national biodiversity targets
biodiversity strategy	Santos, Ulrich Brand, Jennifer	suggests that our political, economic and social actions must
contribute to a social-	Hauck, Heidi Wittmer (et al),	change significantly more than they have in the past in order to halt
ecological transformation	Thomas Hickmann, Gregor	the decline in biodiversity and reverse the negative trend. In light of
	Hagedorn, Elisabeth Henn, David	the update of the National Biodiversity Strategy and Action Plan
	Lam, Marion Mehring	(NBSAP) 2030, the question arises as to how such a transformation
		can be initiated and shaped in Germany. In this article, we present
		findings from an evaluation of key elements of a transformative
		biodiversity policy and make recommendations for all fields of
		action of the NBSAP 2030. We show that a successful
		transformation requires new forms of inclusive planning and a
		coherent realignment of the regulatory framework for biodiversity-
		related action. The paradigm shift required for this cannot be
		achieved by the environmental sector alone, but requires a high
		political, social and legal status for biodiversity in all sectors. The
		associated learning process can only be successful through
		concrete planning of objectives, measures and responsibilities as



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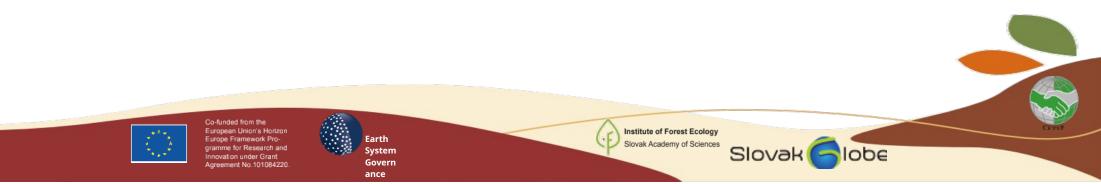
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		well as regular evaluation.
Normative sciences in the	Juha Hiedanpää, Carsten	Nature-based solutions (NBS) are already being delivered with
design and governance of	Herrman-Pillath, Timo Maran	increasing evidence on their effectiveness, but implementation
nature-based solutions		issues persist. It has become evident that implementation is not a
		technical issue, but a complex combination of economic, social,
		political, moral, cultural, material, and discursive issues that shape
		and condition NBS design and implementation. Our theoretical
		perspective points at two directions: values are communicative
		devices that become tangible in problematic situations (i.e. a need
		for NBS) and the fair and actionable remedy for these problematic
		situations calls for normative science of specific kind (i.e. design ar
		implementation of NBS). Our approach to normative sciences lean
		on the pragmatist philosophy of Charles S. Peirce (1839–1914). To
		him, normative sciences include aesthetics, ethics, and logic
		(science, semiotics). Aesthetics is concerned with what sorts of end
		are admirable to pursue, ethics with how people should act, and
		logic with how they ought to reason. Transdisciplinary science is
		always normative as it attempts to solve practical problems and
		improve existing conditions. We argue that the purpose of
		transdisciplinary NBS science is to integrate ethics into aesthetics
		the way that signs (needs and values) create potentially a virtuous
		web of interactions, in the sense of fostering and nurturing a
		process of creative symbiosis, and that this process can be
		experienced as an admirable world for all species.







Thematic Session 1: From Adaptation to Transformation (120 minutes)

Session addresses adaptive and transformative potential of nature-based governance in individual presentations (20 min semi-plenary and 15 minutes other presentations) and plenary discussion (30 min).

Key themes to discuss:

- Through which mechanisms and pathways, and under which conditions, transformative interventions and actions are realised?
- What is the target of NBG transformation?
- What are the implications of adaptation/ transformation for enhancing global sustainability in diverse cultural and economic contexts?

Title of contribution:	Authors	Abstract:	Key words:
How Transformative is the	Jerneja Penca	Policy makers are exploring ways to design and enact	transformativ
Nature Restoration Law?		transformative actions that promote the long-term health of	e
		ecosystems. Nature restoration has been identified as one such	governance;
SEMI- plenary (20')		measure. While the concept of restoration has a long history in	people and
		biodiversity governance and restoration ecology, its heightened	nature;
		policy attention—especially in the EU with the Nature Restoration	natural and
		Law—has not been adequately examined in relation to	cultural
		transformative change, as envisaged by the scientific community.	heritage;
		This contribution will examine nature restoration as a possible case	laws;
		of transformative regulatory action. It seeks to bridge the gap	institutions;
		between the discussion of transformative change (which often	actors;
		remains an elusive and abstract concept in policymaking) and	paradigms
		concrete policy measures. The objective is to consider the recent EU	
		Nature Restoration Law and the conditions under which it can have	
		transformative power in its upcoming implementation, while also	
		appreciating restoration as a contested approach. Legal analysis of	



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		the law will be combined with recent knowledge from sustainability	
		science and observations from two case studies in the Slovenian	
		coastal region: an attempt at seabed restoration and governance	
		challenges in Salina, a Natura 2000 and Ramsar site.	
Climate smart rewilding	Olena	Climate-smart rewilding in Horizon Europe project wildE develops as	climate smart
implementation enhancing	Shelvytska,	a holistic approach that considers climatic, economic and societal	rewilding,
human and non-human co-	Stanislava	challenges. This approach makes ecological restoration financially	ecological
benefits	Brnkaľáková,	feasible, promotes social-environmental co-benefits, safeguards	restoration,
	Zuzana	cultural, socio-economic values, while enhancing rewilding's climate	institutional
	Sarvašová,	benefits. Empirical basis is Tatra Mountains positioned on the	analysis,
	Tatiana	Slovak-Polish border. Despite being a significant conservation area	community
	Kluvánková	of NATURA 2000 framework, the inhabited parts of these mountains	well-being,
		are heavily impacted by human activities. To ensure the ecological	policy
		integrity of the park, it is important to have a comprehensive	integration
		strategy, insuring balanced coexistence between conservation	-
		efforts and community well-being. Due to the lack of preparation in	
		existing policies and governance structures to handle climate-smart	
		rewilding initiatives, our study primarily delves into an extensive	
		institutions examination. The goal is to uncover both the potential	
		drawbacks and opportunities for integrating rewilding policies with	
		others on various levels across Europe. Furthermore, the choice	
		experiment method can assess complex decision-making, values	
		and public preferences for rewilding and conservation efforts.	
Systems thinking approach:	Blanka	The idea of systems thinking, along with related concepts such as	systems
an integrative and	Loučková,	leverage points, has gained attention in research on transformative	thinking
comparative tool in diverse	Julia	change. Systems thinking serves as a useful framework for	approach,
case studies	Mildorfova	examining issues, especially in the study of social-ecological	biodiversity
(an example form Planet4B	Leventon,	systems, to investigate strategies for promoting sustainability within	governance,
project)	Simeon Vaňo,	specific local systems.	plurality,



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	Patricia Ofori- Amanfo, Elif Tugba Simsek	In our paper, we draw on range of examples of case studies in the Planet4B project, where we apply a systems thinking framework known as the onion model. This approach enables us to compare systemic change across different case studies and provides a consistent way of analysing these cases. However, the use of systems thinking approach has been occasionally criticized for promoting a uniform perspective, potentially overlooking diverse viewpoints and plurality of different actors involved in a given context. Based on case studies in the Planet4B project, we explore the systems thinking approach (onion model) in relation to the diverse contributions and multiplicity of actors. We look closely at this approach and try to determine to what extent it allows to keep coherence and complexity while also bringing together different perspectives of actors involved.	transformatio n
A historic overview of the development of the oil palm sector in Peru, its impacts on land use, and its links to a changing governance	Diego Brizuela- Torres, Yves Zinngrebe, Calum Brown	 perspectives of actors involved. Oil Palm has become highly profitable, but has caused extensive deforestation in Southeast Asia. This has raised concerns about its sustainability and created a negative image of oil palm. In Peru, its expansion originates with its promotion as an alternative crop to coca in the 1990s and now has become an important economic motor. This paper presents a historic overview of the oil palm sector in Peru focusing on the land use changes it has induced, and the role that changes in governance structures have had in mediating these processes. We found that the palm sector in Peru has developed across three stages: The first stage, triggered by support for palm by international institutions, national and regional governments, and with little consideration of land use impacts. A second stage started 	oil palm, deforestation , governance, land use change, land use governance



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		when the sector became profitable, strengthening producers'	
		organizations and big companies, while government started	
		withdrawing and passing leadership on to private actors.	
		Environmental concerns emerged during this period. Since the late	
		2010s, a third stage began, marked by the lead of private actors and	
		signs of industrialization, increasing the risk of palm becoming an	
		important deforestation driver. We also discuss a group of levers	
		which could prevent such deforestation impacts.	
Potential of the nature-	Dina Bite	"Socially responsible green transition: enhancing governance	
based solutions in the		solutions to empower Homo Climaticus in the healthcare sector	
governance of the		(GreenCare)" is main objective of the study to analyse inequalities	
healthcare sector		created or facilitated by the European Green Deal (EGD) in the	
		healthcare sector, identifying the impact of climate policy on	
		healthcare practitioners and socially vulnerable groups, as well as	
		proposing recommendations for governance solutions to promote a	
		socially responsible green transition. The project idea goes in line	
		with the statements of the conference containing opportunities	
		both learn from the other spheres and disciplines as well as enrich	
		experiences of other participants. Discussions among	
		representatives of different disciplines and interest groups would	
		promote development of creative ideas that can lead to innovative	
		solutions locally and regionally. Collaborative ties and mutual	
		interaction would also be developed thus leading to better	
		understanding both of theoretical and practical aspects of nature-	
		based governance and promote opportunity to develop further	
		investigations."	



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Thematic Session 2: Architecture and Agency of NBG (120 minutes)

Session addresses NBG architecture, agency and multilevel (20 min. semi-plenary and 15 minutes other presentations) and plenary discussion (40 min).

Key themes to discuss:

- What are institutionalised structures that impede or foster the uptake of nature-based governance across policy levels?
- What barriers and benefits Nature based governance concerns?
- What can we learn about accountability and acceptance in this context?
- Under which conditions can nature-based governance receive the political, financial and administrative support?

Title of contribution:	Authors	Abstract:	Key words:
Nature-based solutions a	Міа	This review paper contributes to this gap by synthesising the	Nature-based
semi-systematic review of	Pihlajamäki,	current state of knowledge on NBS governance requirements. To	solutions,
governance challenges and	Simo Sarkki,	this end, the paper draws on a semi-systematic review of 168	governance
opportunities	Tatiana	peer-reviewed papers on NBS governance 1) to provide a	elements,
	Kluvánková,	description of the current state of scientific literature; 2) to	inclusivity,
SEMI plenary (20')	Carsten	explore how governance and NBS are conceptualised in the	literature review
	Herrmann-	literature; 3) to identify and synthesise NBS governance	
	Pillath, Elena	challenges and successes by exploring how different governance	
	Górriz,	elements, namely i) governance modes, ii) institutions and	
	Stanislava	instruments, iii) governance processes, and iv) governance	
	Brnkaľáková,	structures enable or hamper NBS designing, implementation	
	Ann Ojala,	and upscaling; and 4) to explore the role of inclusivity of various	
	Claire Hardy,	stakeholder groups, both human and non-human, across these	
	Jiří Louda,	governance elements.	
	Martin Špaček		



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Explaining siloism as	Fabian	Looking at the example of sub-national governments in	Water
hallenge for biodiversity	Proebstl, Yves	Germany. this article investigates policy incoherencies and thus	Framework
policy integration in the	Zinngrebe	the low level of Biodiversity Policy integration I particular	directive,
context of the water		interdependencies between sub-national administrative	Habitat
framework and the		structures and practices and incoherent, ineffective	directive, river
habitats directive		implementation of potentially complementary directives for	restoration,
		overlapping challenges such as river restoration.	Biodiversity
		We find that a stringent prisonization of either reactivation or	Policy
		conservation of ecological structures in water currents result in	Integration,
		conflicting interests and stretches scarce human and financial	reflexive
		resources in the light of climate change. We identify three	governance,
		explanatory factors for low levels of biodiversity policy	adaptive
		integration: inflexible handling of directives by civil servants,	governance
		weak inter-departmental communication and a missing	
		accountability for coherent or coordinated solutions.	
Exploring Perspectives on	Oriana Mosca,	This study delves into the perspectives on NBS implementation	Nature based
Nature-Based Governance:	Tomáš Szabo,	practice across seven European countries (Italy, Hungary,	solutions, and
Insights from Seven	Silvana Mula,	Finland, Spain, Estonia, Scotland, Czech Republic- Slovakia),	well-being
European Living Labs	Julius Janáček,	corresponding to seven different Living Labs. We conducted	
	Sara Manca,	semi-structured in-depth interviews with key figures from	
	Tatiana	diverse backgrounds and survey exploring attitudes, perceptions	
	Kluvánková,	and experiences about nature and NBS, utilizing measures such	
	Ferdinando	as the Inclusion of Nature in the Self (Schultz et al., 2002) and the	



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coevolvers		Book of Abstracts	
	Fornara	Environmental Identity Scale (adapted from Clayton et al., 2021), individual and collective well-being and barriers an benefits of NBG. This research contributes to advancing our understanding of NBG strategies, informing future policy and practice, and fostering dialogue among stakeholders invested in sustainable development.	

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Multi-Attribute Model for	Andrej Udovč,	The Need Of Alternative Managing Models Of Green Urban	Dexi,		
Sustainable Green Urban	Luka Žvokelj	Spaces Is Growing Because Of Increasingly Smaller Funds For	Sustainability,	l	
Spaces Management		Their Management. In Order To Design A Model For Sustainable	Urban Green		
		Use Of Urban Green Spaces The Cooperation Of Both Self-	Spaces,		
		Organised Municipal Initiatives And City Municipalities Needs To	Management	l	
		Be Established. For Facilitating These Processes, We Developed			
		Multi-Attribute Decision Making Model For Managing Urban		ł	
		Green Spaces. It Is Aimed At Interactive Development Of			
		Qualitative Multi-Attribute Decision And The Evaluation Of			
		Options Based On Professional Assumptions. With The			
		Implementation Of The Interviews With Specialists From Social,		1	
		Ecological And Economic Fields We Determined Main Attributes			
		And Other Criteria, That Have Potential Influence On Sustainable			
		Use Of Urban Green Areas. Those Attributes Were Formed To			
		Decision Tree Using Dexi For Determining The Ones With Most			
		Influence On Sustainability Of Urban Green Spaces. We Tested			
		Designed Model On Urban Green Space Livada Lab, Ljubljana.			
		The Results Showed, That Current Management Practice Is Not			
		Sustainable. After The Analysis Of All Criteria We Found Out, That		ĺ	
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coevolvers	Book of Abstracts	BESKYDY 2024
	Attributes As Financial Safety And Profit Impact On Final Sustainable Use Of Urb They Changed, Managing Of Urban Gree Becomes Sustainable.	an Green Area And If

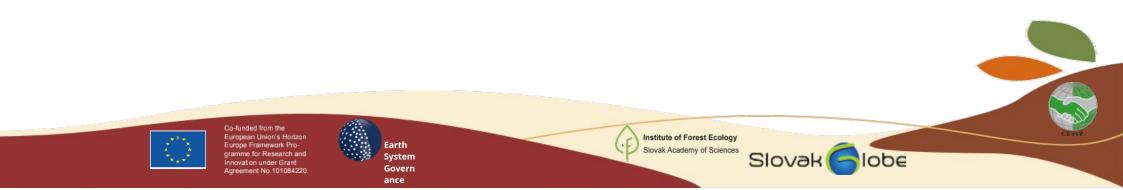
Saline Nature-based	Ina Lehmann,	Among the many negative consequences of climate change, the	NbS, saline
solutions for adapting	Katarzyna	salinization of soils has not yet received substantial public	agriculture,
agriculture to climate	Negacz, Nadia	attention even though it may lead to mayor losses of agricultural	farmers, food
change	Bazihizina,	yield. In this paper, we draw attention to this problem and	consumers
	Giulia Atzori	discuss the potential of Nature-based solutions (NbS) to support	
		the adaptation of the agricultural sector to a climate-changed	
		world. Saline nature-based solutions, as we call them, can for	
		instance be the use of salt-tolerant crops or crops that extract	
		salt from the soil. Such practices draw on the natural properties	
		of plants and thereby have many economic and ecological	
		benefits over chemical and technical solutions to the adaptation	
		of agriculture to climate change. However, changing farmers'	
		practices and making saline agriculture products acceptable to	
		consumers requires changes in cultural habits related to food	
		and agriculture. We provide a framework of the various	

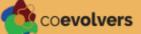


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	challenges that arise and illustrate them with case studies from around the world. On this basis, we conclude with recommendations for the further upscaling of saline NbS.	







Thematic session 3: Transformative Learning and behaviour change (120 minutes)

Session will open experimentarium to demonstrate potential of methods for transformative learning (80 minutes), visual, illustrative presentations are welcome. Discussion (40 minutes) is to boost transformation through experimentation, co-creation and social learning.

Key themes to discuss:

- How novel transdisciplinary digital, art-based methods can foster potential of Nature Based governance transformation for action across the globe?
- How to trigger behavioural change, to booster societal transformation and institutional reconfiguration for NB governance and policy change?

Title of contribution:	Authors	Abstract:	Key words:
Novel digital methods	Leanne Townsend,	The Horizon Europe-funded COEVOLVERS project	inclusive;
for inclusive nature-	Claire Hardy, Tim	("Coevolutionary approach to unlock the transformative potential	engagement;
based governance	Pittaway	of nature-based solutions for more inclusive and resilient	novel methods;
		communities") takes a coevolutionary approach to	digital
SEMI plenary (20')		understanding how the governance of, and participation in	
		nature-based solutions can be more accessible and inclusive for	
		(human and non-human) local communities, and how this can	
		benefit them in the face of the ongoing biodiversity and climate	
		crisis. The project is doing participatory research in seven living	
		labs, each of which work with local communities to explore these	
		issues. In Scotland we are working with a rural community to	
		explore more inclusive management of a community-owned	
		woodland. We are implementing a range of creative	
		methodologies, including digital and analogue approaches.	
		Novel participatory digital approaches include the development	
		of a 3D virtual tour of the woodland for increased accessibility	
		and engagement, and an interactive woodland mapping activity	



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Abstracts



simulate human and	Martin Špaček , Tatiana Kluvánková, Jiří Louda, Stanislava Brnkaľáková, Julius Janáček, Tomáš Szabo, Dominik Horváth, Simo Sarkki, Juha Hiedanpää	governance. Nature-based governance (NBG) integrates co-	Nature-based solutions, Role Board Game, Nature-based governance, multi-species cooperation, more-than- human perspective
		human actors behave strategically in different situations, and what relevance can game play have for understanding complex	



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Abstracts



Implementation of	Jiří Louda , Jan	Long-term pressures on agricultural efficiency, based on	nature-based
nature-based	Macháč, Jan Brabec,	synthetic fertilisers, pesticides and intensive technologies, are	solutions,
solutions on	Lenka Dubová	reducing biodiversity and the ability of landscapes to provide	farmers,
agricultural land:		ecosystem services (ES). In the same time the risk of natural	ecosystem
farmers' and		hazards due to climate change is increasing and threatening	services,
residents'		farmers. Changes in farming practices (organic fertilisers, crop	barriers,
perspectives		rotation, promotion of local production, implementation of	interviews,
		nature-based solutions (NBS) can reverse this negative trend.	choice
		Introducing these changes may increase costs for farmers. Their	experiment
		willingness to make these changes depends on many factors,	
		which are the focus of our research. Perceptions of ES by	
		farmers, and barriers hindering their willingness to implement	
		NBS were studied using semi-structured interviews with farmers,	
		, but also the willingness of residents to participate in these	
		changes e.g. by accepting a price increase of agricultural	
		production Farmers were asked to rank selected ES based on	
		the perceived usefulness for their business. The results show	
		that regulation of hazards and extreme events is of a low priority	



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	for majority of them because they valu (production of food; formation/protect Administrative burden and complicate most important barriers. People's pref sustainable agriculture (including impl investigated using the choice experime be presented at the conference.	tion of soils). d ownership structure are rerences towards lementation of NBS) were

Behavioural change in	Iveta Štecová,	Sustainable provision of regulatory ecosystem services, such as	climate
the application of	Tatiana Kluvánková,	climate regulation, are essential for reducing the impact of	regulation,
appropriate green	Mária Kozová,	climate change and inducing a paradigm shift in the	ecosystem
infrastructure to	Stanislava	management of natural resources, to link natural systems and	services,
microclimatic function	Brnkaľáková,	human well-being. However, natural elements and green areas in	behavioural
in the city.	Kristína Raševová	cities are shrinking and ineffective planning and management of	change, green
		urban systems can considerably exacerbates the negative effects	infrastructure,
		of climate change. Bringing nature based solutions into spatial	urban
		planning of urban and semi-urban areas has the potential to	environment,
		supply multiple ecosystem services, which increase the quality of	heat islands,
		life and mitigate the negative impacts of climate change.	adaptation,
		The qualitative research (interviews) focuses firstly on the	mitigation,



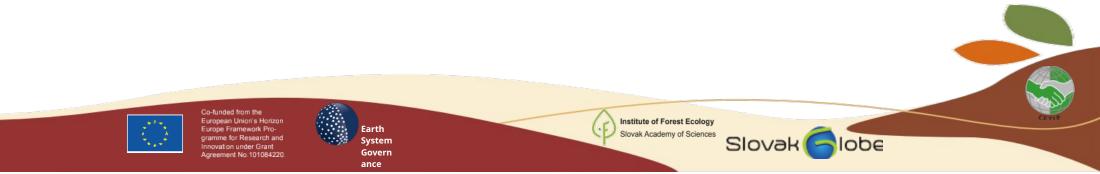
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coevolvers	Book of Abstracts	BESKYDY 2024
	analysis of climate change risk perception of different actors to understand how collective action can stimulate the adaptive behaviour in a long term. Secondly, study identifies the effective motivations to develop the payments for ecosystem services in public-private partnerships. Finally, the quantitative research is supplemented with data from microclimate measurements for better identification of risk areas, which will help set up management so that its greenery effectively provides regulator ecosystem services.	e







Thematic Session 4: Co-creation of NBG (120 minutes)

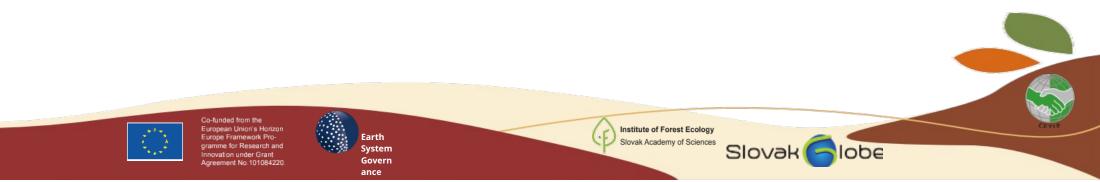
Session addresses co-creative perspective of Nature based governance by responding to people and non-human views (20 min semi-plenary and 15 minutes other presentations), plenary discussion (40 min).

Key themes to discuss:

- What role does co-creation have in the process of transformation?
- Coevolutotionary dynamics and opportunities, barriers of co-creation of different models of nature-based governance?

Abstract:

Key words:







Mind the Gap! Co-	Gerd Lupp, Isabel	Nature based Solutions (NBS) bring together solutions and	Nature Based
Creating truly	Ferreira, Beatriz	approaches to simultaneously provide environmental, social and	Solutions, Co-
inclusive Nature-	Caitana, Andreia	economic benefits towards more sustainable communities.	Creation,
Based Solutions and	Barbas, Francisco	However, there is a lack further scientific evidence especially on	Governance,
the role of different	Reis	the expected socio-cultural benefits and how indirect drivers	Environmental
governance		such as not well conducted participation processes impact a	Justice,
arrangements		proper and successful implementation. This might hinder that	Unlearning
		NBS can unveil their full potentials and hindering processes to	
SEMIplenary (20')		gain momentum or the uptake of NBS in a broader scale.	
		TRANS-lighthouses aim to unlearn, rethink and reframe the main	
		components of NBS and their co-creation processes to achieve	
		better, more social and more ecologically just NBS. At an early	
		stage of the project, we will present first preliminary outcomes	
		on identified gaps and lacks in co-creation processes based on	
		systematic reviews of OPPLA cases and literature as well as by	
		studying the different TRANS-lighthouses cases being at	
		different stages of implementing NBS. Data from the sites are	
		collected through surveys and case analyses. We will present on	
		how to reflect and pick up on the emerging dilemmas such as	
		obvious evidence of gaps in documented case studies, e.g.	
		considering ethical aspects or missing, absent or	
		underrepresented groups in NBS co-creation processes.	

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Adaptive and	Elif Tugba Simsek	Study presents two new cooperative initiatives' adaptive and	new	
Transformative		transformative potential for nature-based governance from	cooperatives,	
Mechanisms for		Hungary. An in-depth analysis of these cases aims to elucidate	collaborative	
Nature-Based		the socio-economic dynamics and internal governance	governance,	
Governance: A Study		mechanisms through which these cooperatives foster adaptive	sustainable	
of New-Wave		and transformative actions in environmental management.	resource	
Cooperatives in		Central to this study is co-creation's role in driving the	management,	
Hungary		transformation process. The paper explores how collaborative	nature-based	
		governance practices within these cooperatives contribute to the	governance	
		co-design and implementing innovative strategies for		
		sustainable resource management. By delving into co-creation		
		dynamics, the study also uncovers how external networking		
		practices add to this process and address complex socio-		
		economic challenges for nature-based governance. In		
		conclusion, this study offers insights into the adaptive and		
		transformative capacities of new-wave cooperatives within		
		Hungarian contexts. It highlights the link between cooperative		
		action and nature-based governance for achieving sustainable		
		social, economic, and ecological pathways in diverse cultural and		
		economic landscapes.		

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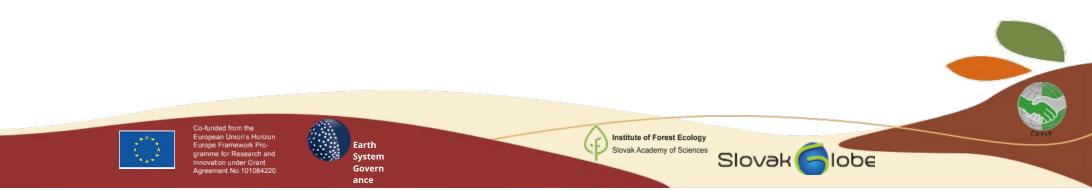
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Climate induced	Sandhya Farswan,	Fates and impacts of climate change in remote Himalayan valleys	Climate change,
migration in Indian	Jyoti Kushawaha	affecting the simple livelihood activities due to water scarcity	Disaster risk,
Himalayan region		being a major issue, unprecedented rainfall patterns affecting	Himalayas
		crop cultivation, etc. Increasing natural or man-made disaster	
		occurrences are a major concern for climate induced large-scale	
		migration in the Himalayan Valleys. I worked with the team to	
		accomplish the assigned tasks and action targets under the:	
		project- Community-managed Disaster Risk Reduction (CMDRR),	
		to identify solution measures integrated with the organic	
		agricultural value chain and livelihood activities in the remote	
		Himalayan valleys through capacity-building training (hands-on	
		or technical), in 5 districts of Uttarakhand, India. Watershed	
		analysis and land use land cover identification were done for the	
		Jakhnoli valley of Rudraprayag district as a pilot project using	
		remote sensing and GIS applications to understand the	
		topography and resources. Activities like extensive field surveys,	
		questionnaires, DRR sensitization, participatory rural appraisal	
		(PRA), training, capacity building, and monitoring of various sites	
		in terrain mountainous regions to meet the needs of the	
		villagers, local community, and various stakeholders. Target	
		stakeholders were farmers; school students and especially	
		women; the backbone of mountain agriculture.	







Nature-based	Zuzana Sarvašová,	Nature-based solutions (NBS) have increasingly been promoted	nature based
governance in	Zuzana Dobšinská	to address sustainability challenges in cities and urban forests.	solutions,
municipal forests		Forest management in urban forests is subject to significant	actors,
Banská Štiavnica		public attention due to the demand for recreation. NBS are an	collaborative
		appropriate tool to balance forest management and citizens	governance,
		demands for recreation, taking sustainability into account.	interest group,
		Involving different stakeholders in co-creation of NBS is key to	forests
		ensure their success. On the example on the special purpose	
		forests declaration in Banská Štiavnica municipality, we analysed	
		the co-creation process involving municipal council deputies,	
		scientists, and stakeholders form various institutions and	
		interest groups. The complexity of NBS calls for more innovative	
		and transdisciplinary practices, including collaborative	
		governance and a genuine engagement with diverse local	
		communities. Their involvement proved instrumental in the	
		acceptance and approval of the investigated process.	



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Digital innovation	Dominik Horváth,	Common pool resource regime designed and validated in	digital tools,
(Virtual commons) to	Tatiana Kluvánková,	research and policy by E. Ostrom has proven to serve as vital	virtual
support Nature Based	Martin Špaček,	management option for vulnerable areas. Scope of our research	commons,
Governance.	Tomáš Szabo	is cross border region Beskydy where existed Nature-based	climate change,
		solutions implemented as 'technological fixes' to environmental	community
		problems excluded participation of vulnerable actors. Water	resilience, multi-
		shortage driven by climate changes constitutes a major	species
		challenge, effecting forest biodiversity and accelerating social	stakeholder
		dilemma over water use between different human and non	approach,
		human users. The aim here is to co-create climate-smart	nature based
		common pool resource management of water and forest for	solution
		cross border Beskydy community and interconnect in online	
		space (Virtual commons). Virtual commons as governance	
		innovation aims to promote behavioral change towards climate	
		sustainability and digital platform beskydyonline.eu is to manage	
		shared goods, communication and NBS practice exchange for	
		knowledge co-production in support of community resilience	
		and sustainability transformation.	
		The research uses transdisciplinary co-creation method:	
		experimenting with multi-species participation and the digital	
		platform to stimulate cocreation of smart water climate regime-	
		hence virtual commons.	

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	Taking stock on "CO"	Simo Sarkki,	To act as catalysts of transformation, nature-based solutions	Nature-based	
	definitions in Nature-	Carsten Herrmann-	(NBS) need to be based on collaboration. Existing NBS literature	solutions;	
	based solutions	Pillath	uses many co-concepts denoting collaboration but often leaves	Collaborative	
	literature: How		them and their relations undefined. We reviewed the literature	governance; Co-	
	collaborative		on NBS and "co-creation" (N=40), "co-production (N=20), "Co-	creation; Co-	
	approaches can		design" (N=40), and "collaborative governance" (N=20). In	design; Co-	
	enhance		addition, we also consider the concept of coevolution, which is	production;	
	transformative		not widely used in NBS literature. Our results show that co-	Coevolution;	
	potential, and from		creation is mostly understood as a cyclic process from problem		
	whose perspective?		definition via implementation to evaluation of NBS. Around that		
			cycle, co-production targets knowledge and commonly includes		
			scientists, collaborative governance is about policy and includes		
			administrators and decision-makers, and co-design links to		
			practice with the participation of those designing the NBS.		
			Together, these form a relatively short-term cycle to plan and		
			implement NBS. Coevolution is a longer-term process between		
			society and nature that, however, can be tweaked by the shorter-		
			term process towards sustainable directions. Based on the		
			results, we propose a framework integrating all five CO concepts		
			to provide conceptual clarity and better understand the		
			potentials and roles of collaboration in transformative change		
			involving NBS.		

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Thematic Session 5: Multispecies Justice (120 minutes)

Session addresses Justice in nature-based governance - more-than-human needs (20 min semi-plenary and 15 minutes other presentations), plenary discussion (45 min):

Key themes to discuss:

- Does the Anthropocene condition exacerbate existing power inequalities or create new opportunities for the legitimacy of power in nature-based governance?
- How do power asymmetries among humans and between humans and non-humans affect the management of natural resources? How can non-humans be meaningfully included in nature-based governance?

Title of contribution:	Authors	Abstract:	Key words:
Indigenous	Carsten Herrmann-	The literature on NBS often refers to Indigenous thought as a	Indigenous
spirituality: Paradigm	Pillath , Simo Sarkki	transdisciplinary reference. However, this remains in the	spirituality,
of Nature-based		abstract, primarily interpreted as relational thinking. This paper	governance by
governance		suggests taking Indigenous spirituality and its ontology	nature,
		seriously despite apparent clashes with scientific thinking. It	ecosemiotics,
SEMI plenary (30')		starts from a philosophical reflection on the concept of 'nature,'	affordances, ritual
		following the approach developed by the environmental	
		philosopher Steven Vogel. The general framework is set by the	
		analysis of Indigenous worldviews offered by the late Marshall	
		Sahlins who argued that these universally relate to the notion	
		of nature governed by a pantheon of spirits, hence a primordial	
		'natural state' (in the sense of governance). We develop a	
		scientific interpretation that follows ecosemiotics, thus	
		preparing the ground for acknowledging the validity of the	
		Indigenous ontology without invoking the specific form of	
		spirituality. A key concept is that of a 'common semiotic pool'	



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		that approaches signs as shared affordances for humans and	
		non-humans that invite actions of co-habitation. Although this	
		contribution is mainly theoretical, we show practical	
		implications, focusing on ritual as 'natural' governance distinct	
		from institutions.	
Inclusion of	Himansu Sekhar	Participatory approaches are key to designing and governing	Nature-Based
multispecies	Mishra , Katriina	nature-based solutions (NBS), aiming to integrate diverse	Solutions (NBS);
perspective in the co-	Soini, Mia	knowledge, practice, and experiences into planning and	Co-Creation
creation of nature-	Pihlajamäki, Michael	decision-making. Despite the diversity of co-creation	Methods;
based solutions –	Kull, Ann Ojala, Juha	approaches available and used, the challenge of participatory	Multispecies
review of exiting	Hiedanpää	and epistemic fairness persists in NBS design and	Perspectives;
methods from ethical		implementation. The premise of this paper is that these	Vulnerable; Ethical
viewpoint		challenges stem from the failure to incorporate the needs and	considerations
		concerns of vulnerable humans, as well as non-humans and	
		their living environments that are most affected by the pressing	
		socio-ecological challenges. While multispecies perspectives are	
		gaining attention in environmental policy and governance,	
		examples of their practical application in co-creation phases are	
		limited. The inclusion of non-humans and vulnerable people	
		always raises specific ethical and epistemic questions. To	
		address these issues, the paper reviews and analyses various	
		NBS co-creation methods that facilitate the inclusion of	
		multispecies perspectives from an ethical viewpoint. It	
		identifies methods through systematic screening of previous	
		EU-NBS projects that focused on the inclusion of non-humans	
		in the process and expands the literature search to arts,	
		humanities, architecture, and human and cultural geography.	
		The study improves understanding of participatory approaches	
		in NBS co-creation, categorises methods by co-creation phases,	



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		and discusses ethical considerations arising from these	
		methods.	
Multispecies	Juha Hiedanpää,	This discussion contribution aims to share existed good	Co-Creation
management: Pilot	Ugo Tojc	practice in multispecies governance innovations	Multispecies
case island CRES		implementation in Europe and first insight into the	management;
		Coevolvers small scale pilot study on nature based	
		governance: multispecies management at Cres Island. The	
		objective is to systematize the problematic situation and	
		to initiate a co-creative design process towards a novel	
		governance model to preserve traditional sheep breeding,	
		biological diversity, and socio-ecological resilience of Cres	
		<u>island.</u>	

Discussion PANEL II: What is Nature-based governance?

Session participants will reflect workshop discussion and address key workshop topics:

What governance mechanisms can trigger NBS sustainability transformation across policy levels in diverse cultural and economic

contexts? How can non-humans be meaningfully included in nature-based governance co-creation?

What methods foster potential of NBS governance transformation for action across the globe?



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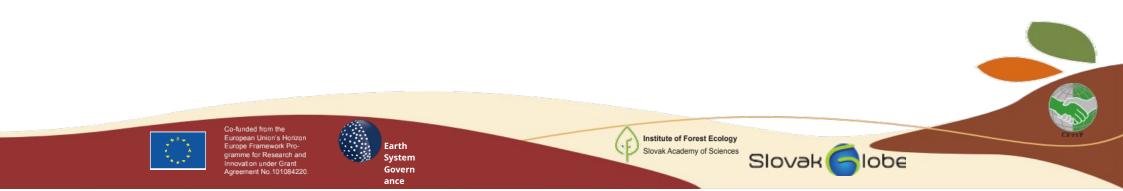
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Panelists: Julia Leventon, Eva Frank, Yamini Yogya Moderated by Tatiana Kluvankov	 Nature-based governance is seen to tackle ongoing environmental and societal crises acknowledging the situational complexity and relational holism in support of community resilience and sustainability transformation addressing following aspects: Ø Manifesting interconnection of physical and social/ cultural domains. Ø Integrating vulnerable agency e.g multispecies justice. Ø Identifying institutions e.g. collective actions, decision rights and reconfiguring governance modes to sensoric, collaborative - nature based governance mode. 	
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Special Session: NBS Exchange Practice (120 minutes +)

Session description: NBS practice exchange is an open exhibition to demonstrate NBS practices. Session panellists are invited to introduce their exhibition in informal an aesthetic, interactive and graphical way, e.g., posters, videos, installations, or other media. Workshop participants are welcome to walk with the coffee and cake to share experiences and stimulate discussion for knowledge exchange session. It will be part of Wallachian evening.

Title of contribution:	Authors	Abstract:
Multispecies management at CRES island	Ugo Toić a Franjo Toić,(Island Development Agency, Cres, Croatia), Tatiana Kluvánková (IFE SAS), Jiří Louda, Martin Špaček (CETIP Network), Jani Pellikka, Juha Hiedanpää (LUKE)	The island of Cres is located entirely within the ecological network Natura 2000 and represents a significant reservoir of biodiversity. Such exceptional biodiversity has developed thanks to a thousand-year interaction between humans and nature. Since medieval times, the indigenous Cres sheep (creska ovca) have been bred on the island, grazing all year round on pastures surrounded by historical handmade stone walls – their building method is acknowledged as UNESCO heritage, contributing to the island's biodiversity. Original sheep farming, developed as a community-based Nature-Based Solution (NBS), created semi-natural habitats of karst pastures extremely rich in plant species, which today occupy almost 30% of the island's surface. It is a typical example of High Value Nature Farming (HNVF) The island is also well known for hosting numerous pairs of griffon vultures (Gyps fulvus), an endangered species protected by the Birds Directive, nesting on the island's cliffs. The abandonment of traditional sheep farming due to structural social-economic changes have been further intensified in the last twenty years by introduction of non-native game species – wild boars (Sus scrofa) and fallow deer (Dama dama). These non-native animals expanded across the island, damaging stone fences and the sheep population, posing a threat to the original biological diversity. The presence of wild boars has established new predator-prey interactions in the entire island ecosystem and between wild boars and domestic animals (sheep), endangering the survival of griffon vultures. Besides the imbalance in the fragile ecosystem, this has also generated social tensions between hunters and sheep farmers due to significant economic damage caused by wild boars. The long-

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	of Catalonia)	 wildfires, thus mitigating associated risks. This practice presents a sustainable alternative to mechanical clearing, involving heavy machinery and fossil fuels. Grazing not only diminishes the wildfire risk but also promotes extensive livestock farming. This approach benefits biodiversity by fostering diverse habitats and contributes to animal welfare. Additionally, grazing for fire
Grazing for Fire Protection Strips in Catalonia	Marc Rovellada Ballesteros (CTFC - Forest Science and Technology Center	Grazing for fire protection strips is an effective technique employed to reduce the risk of wildfires around residences near forested areas. In this approach, a herd of livestock is led by a shepherd to graze and consume excess vegetation biomass accumulated in the safety perimeter around urban areas. This process diminishes the fuel available for
Non-human perspectives in nature-based solutions in Tartu	Kalevi Kull, Nelly Mäekivi, Riin Magnus, Timo Maran, Lona Päll, Tiit Remm (University of Tartu, Department of Semiotics)	 lasting conflict between two groups of humans (sheep breeders vs hunters) and between nonhumans (sheep vs wild boars and fallow deer) affects the nature-human balance established within this NBS and thus, the stability of the island ecosystem and socio-economic relations. In summer 2024 Coevolvers project initiated small scale Multispecies study to find out how can co-creation of a novel governance model restore community NBS, preserve traditional sheep breeding, and enhance the socio-ecological resilience of Cres island? We plan to present a poster detailing strategies for involving local communities in understanding non-human perspectives or umwelten. Our focus will be on the methodologies we've implemented in Tartu Living Lab in the Coevolvers project, specifically sensory walks, collecting local stories and developing a card pack of local species umwelten. During sensory walks, participants are encouraged to engage with the rich tapestry of environmental stimuli, reflecting on which cues may hold significance for non-human inhabitants and exploring their presence through various traces. Collecting and telling local stories serves as a means of weaving the experiences with non-humans into a narrative framework, fostering reflection on everyday encounters with non-humans. A card pack featuring umwelten introduces the perspectives of key species within a specific environment.



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in Beskydy	Kluvánková, Martin	introduced by Elinor Ostrom in the physical world. Sharing common resources has been
	Špaček, Jiří Louda,	a challenge for human societies for millennia, so the ability to create effective
	Dominik Horváth	institutional arrangements virtually can help prevent the tragedy of the commons in
Stanislava	global era.	
	Brnkaľáková, Tomáš	In Beskydy region we are currently developing novel governance to address the social
	Szabo and Beskydy	dilemma of water and forests in the Beskydy cross-border region, where existing nature-
	LL stakeholders	based solutions (NBS) are implemented as 'technological fixes' to environmental
	(CETIP Network and	problems, excluding the participation of vulnerable actors. The virtual commons in
	SlovakGlobe, Slovak	Beskydy aims to co-create climate-smart common pool resource management regime of
	Academy of	water and forest by WORKING together with cross-border Beskydy community including
	Sciences)	more than humans vulnerable agencies. Several stakeholders will be present at the
		workshop. It is to promote behavioural change towards climate sustainability future . A
	digital platform beskydyonline.eu manages physical and virtual communication,	
	exchange of NBS practices via story-telling, nature letters, VNT for knowledge co-	
	production of community resilient and sustainable Beskydy .	
Co-creating	Gabriella Farkas,	The Hungarian COEVOLVERS project partners initiated the implementation of a
Biodiversity and	Orsolya Lazányi,	nature-based solution that transforms the green area of a mental health hospital
Mental Health	György Pataki,	into a healing garden. Currently, the green area of the hospital resembles an urban
	Beáta Pántya,	park, though it is surrounded by a nature protected area with high biodiversity.
	Katalin Réthy,	While the garden is a frequently used space for human-human and human-
	Krisztina Szilágyi,	nonhuman interactions and activities, including individual (walking, jogging, etc.)
	Hunor Török	and collective (ecotherapy, horticulture therapy, etc.) activities, there is room and
	(ESSRG Nonprofit	demand for improving the garden aiming at enhancing biodiversity and a better
	Ltd, Magház	integration of the therapeutic activities with nature.
	Egyesület)	The hospital provides medical services for all kinds of mental conditions (incl.
		addictions, dementia, depression, schizophrenia, etc.), and organisationally it is
		highly departmentalised and hierarchically structured and managed. The more
		general context in the Hungarian health sector is historically characterised by a
		great degree of uncertainty, lack of governance stability, and ongoing financial



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coevolvers	Book of Abstracts	BESKYDY 2024
	used or acknowledged with regard to b More specifically, after the start of our public hospital to a private one and the This created a lot of anxiety and tension While the COEVOLVERS Healing Garder a participatory, co-creative, and collabo context produces a lot of challenges. O sensory understanding of the bio- and garden. Careful small steps through joi	Living Lab aims to engage diverse actors in prative way, this broader and immediate our journey follows empathy, listening, and socio-diversity in and around the hospital int action aiming to change the garden ated to the use of the garden might be the

