

The connection to nature is increasingly recognized as vital for societal transformation toward biodiversity protection. As urban areas expand, natural spaces shrink and daily interactions with nature decline, adversely affecting both the environment and public health. In response, our project develops practical solutions to promote nature exposure and connectedness as pathways to sustainable urban development and ecosystem restoration. Aligned with global and European biodiversity and climate goals by promoting nature reconnection as a key driver for sustainable urban development, the project develops and leverages the Societal Transformation Laboratory for Nature Reconnection Advocacy (STLNRA) to drive change in urban functional areas (UFAs) in three Central European regions: Warsaw (Poland), Vienna (Austria), and Stuttgart (Germany). These UFAs, while sharing common challenges such as urban sprawl and ecosystem fragmentation, offer unique insights due to differences in local governance, planning strategies, and socioeconomic contexts.

Our project has three core scientific objectives. First, we investigate the nature reconnection advocacy phenomenon in theory and practice and the relationship between urban residents and nature by examining how people interact with and value biodiversity. Second, we develop the STLNRA framework—a comprehensive methodological tool incorporating defined advocacy models, key performance indicators (KPIs), strategy toolkit, and capacity-building portfolio—to guide transformative change. Third, we pilot and evaluate this framework in real-life settings within the selected UFAs. To achieve these goals, we use a mixed-methods approach embedded into a case study and systemic design framework that combines system and design thinking approaches and involves quantitative methods, such as online surveys and participatory mapping, with qualitative techniques, including interviews, observations, and multisensory ethnography, content, and discourse analysis of planning documents. Additional participatory approaches like Participatory Action Research and Regenerative Design, together with geospatial analysis focused on ecosystem services accessibility, availability, and quality, provide a detailed understanding of existing Nature reconnection advocacy models and build scenarios for improving them, addressing three different challenges: sustainable recreation planning, integrated landscape management, solution of the recreation—nature conservation conflict.

We address three research gaps. First, is the role of nature reconnection advocacy in addressing biodiversity loss; second is the gap between theory and practice in systemic change science; and third refers to neglecting the spatial dimension of transformation processes. The study's novelty lies in developing the STLNRA—a systemic change approach not previously applied in a similar context. Our project bridges theory and practice by testing STLNRA in three distinct geographical settings, addressing the often-overlooked spatial dimension of transformation. It emphasizes the importance of regional and local studies to understand the socio-demographic, cultural, structural, and functional factors affecting natural ecosystem services and nature connectedness, thus identifying drivers for sustainable transformation and biodiversity conservation. By adopting a geographical perspective, we highlight how spatial configurations shape change processes and embed socio-technical systems within unique local institutions, cultural practices, and norms. Additionally, as specific stories are tied to unique locations and communities, making space an active factor in systemic changes, we will explore the role of emotional language—emphasizing shared values and enthusiasm—to motivate collective action, which remains unexplored despite evidence of its importance.

Project's impact unfolds along three pathways: 1) Socioeconomic and Policy Impact: The project creates a platform for dialogue between NGOs, local authorities, and citizens. Fostering collaboration and capacity building helps integrate nature values into urban planning and policy. Communities learn to view nature as essential for health, well-being, and economic security, which leads to improved local governance and more effective, evidence-based planning. 2) Biodiversity Impact: The project addresses urban land use conflicts and bridges the gap between conservation and recreation by introducing a new framework for nature reconnection. This approach enhances awareness of biodiversity and promotes sustainable nature-based activities. 3) Academic and Educational Impact: The project advances research by identifying key gaps and developing innovative models and tools for nature reconnection advocacy. These contributions enrich academic discourse and provide practical examples from diverse urban settings. The findings shared through open-access publications, best practice portfolios, and learning materials will enhance biodiversity and landscape education, benefiting universities, researchers, and the broader public.