

Sustainability Call: “Human-Biodiversity Relationships Across Scales”

3 - 7 February 2025. Lorentz Center@Oort

Program day-specific outcomes: The Outcomes for our workshop (1-4) are directly linked to the intermediate outcomes of each workshop day as follows:

- A. At the end of day 1, establishes the frames of reference, languages, and approaches that undergird how various disciplines consider scale across time and space, which allows contributors from across diverse backgrounds to talk and understand one another. This will contribute to Outcomes 1 and 2.
- B. At the end of day 2, we intend to have a knowledge agenda defined by societal stakeholders. This will contribute primarily to Outcome 2.
- C. At the end of day 3, we intend to have a scientific research agenda, based on the identified knowledge agenda from stakeholders. By doing so, we obtain a truly co-developed transdisciplinary research agenda. This will contribute to Outcomes 1, 2, and 3.
- D. At the end of day 4, we intend to have a first draft of a conceptual diagram that integrates scaling gaps and principles across disciplines and domains. Furthermore, we intend to have a first outline for a position paper. This will contribute to Outcomes 2 and 3.
- E. At the end of day 5, we intend to have an action plan consisting of short, medium, and long-term actions, highlighting those to be embraced by LBN but also other actors that can be shared with other actors. This will contribute to Outcome 4.
- F. In the 3 months following the workshop, we work out the outline of an opinion paper into a draft manuscript. Furthermore, we will finalize the conceptual diagram and research agendas in formal documents distributed within the LBN. This will contribute to Outcomes 1-4.

As described in the Outcomes section, each workshop day will aim to contribute to one or multiple overarching outcomes. Each day has a designated theme with connected workshops and activities.

On day 1, the focus will be on establishing a team and developing this into a transdisciplinary research network. Workshop topics will be:

- Getting to know each other – an exploration of biodiversity research across disciplines (e.g., identifying what scales we each work on)
- Identifying key similarities and differences in focus between disciplines (e.g., identifying the major rifts between our working scales)
- Establishing shared terminology and desired outcomes

The focus will be strongly on the perspective of researchers on this day and will contribute to creating a strong and (internationally) embedded Leiden Biodiversity Network. A summary of these scales and gaps will be kept for work on the following days (e.g., days 3 & 4).

The focus of day 2 is on societal stakeholders across scales. Workshops will be on:

- Biodiversity policy and management across scales (local, (sub-)national, international)
- Non-governmental perspectives (agriculture, NGOs, business, citizens)
- From an interdisciplinary to a transdisciplinary research network
- Establishing a societally relevant and co-developed research agenda across scales

The workshops will enable understanding of key questions different stakeholder groups have and cross-scale connections between them. This day will help evolve the current interdisciplinary research network into a transdisciplinary network and help establish research agendas that empower scientific and societally relevant knowledge. As in day 1, day 2 will maintain a summary of policy-management scales (their synergies and issues) as well as the outline for a research agenda across these scales for the following days.

Day 3 will be used to synthesize key takeaways from the first two days and solidifying the network, its potential and challenges. The focus of the day will be on scales and understanding the challenges and possible solutions across diverse types of scales, building off days 1 and 2. This workshops will include:

- Connecting scales (within disciplines)
- Connecting disciplines (across scales)
- Identifying knowledge gaps for biodiversity research across scales
- Developing a research agenda

The result of day 3 will be a research agenda that enables both interdisciplinary and transdisciplinary research to improve societal and fundamental knowledge.

On day 4, the workshop will focus on converting the generated questions and research agenda into written output in the form of an opinion paper. The workshops on this day will be:

- Plenary discussion to identify main components of an opinion paper
- Workshop to develop an overarching conceptual framework
- Break-out sessions to develop components of the opinion paper
- Second plenary to discuss developments
- Break-out sessions to further draft an outline for the paper

At the end of the day a solid outline of the opinion paper should be drafted, and agreements on how to proceed after the Lorentz workshop should be in place. Potential venues (journals) for the submission of the opinion paper will also be identified.

On the final day of the workshop (day 5), the focus will be on using all the generated knowledge and discussion to define an action plan for the Leiden Biodiversity Network, and to finalize/project opinion papers. Key workshops will be on:

- Long-term action vision and plans – where we see the network growing over time and how to best position ourselves to achieve long-term goals
- Mid-term actions – a vision on the types of initiatives we see available for the Leiden Biodiversity Network over the next 5-10 years.
- Short-term actions – initiatives that can be started now, or current steps that should be taken to bring us closer to our joint research and impact goals.
- Plenary workshop wrap-up

Monday 3rd, February – Rob Dunn, Paco Barona-Gómez and Margaret Gold (co-chairs)

Time	Activity
10.00-11.00	<p><i>Introduction</i> to the workshop</p> <p>Lorentz Center: housekeeping information (10 mins)</p> <p>Paco: Context and Aims of the workshop: where we come from and where are we heading towards (15 mins)</p> <p>Rob: Short history of personal scientific failures in scales (35 mins)</p>
11.00-12.00	<p><i>Appreciative interviews I</i>, facilitated by the Lorentz Center.</p> <p>Each participant will be invited to reflect on a couple of projects that they are proud of that involved a specific scale. They will then discuss in pairs (preferably with someone they do not know yet), listen to each other's story and try to understand factors contributing to the success of the project, and the importance of that specific scale in the context of the project. Each couple will then merge in a group of 4, and people will share each other's story and collectively reflect on how the different scales highlighted can strengthen one another/provide challenges and opportunities.</p>
12.00-13.00	Lunch break
13.00-14.00	<p><i>Appreciative interviews II</i>, facilitated by the Lorentz Center.</p> <p>Groups formed for the interviews (consisting of four persons) present their reflections of their interviews.</p>
14.00-15.00	<p><i>Empathy mapping for multi-disciplinary lenses</i>, facilitated by Rob, Paco & Margaret.</p> <p>In this session, we will first share the outcomes of the survey we sent you, and the themes that emerged. We will then breakout into smaller discussion groups to explore the relevance that "biodiversity" has for us personally as well as from our respective disciplines.</p>

	This mapping exercise will help to make explicit our emotional relation to the topic, as well as our disciplinary perspectives and knowledge frameworks - ultimately contributing to a shared language.
15.00	Coffee break
15.30-16.30	<p><i>Blow up the blockages</i>, facilitated by Rob, Paco & Margaret.</p> <p>In this session we will identify the blockages we experience, especially at various interface points across the Quadruple Helix (academia, industry, government, and society). We will then 'blow them up', identifying what's needed to remove them or get around them - from recruiting allies to systems change, with an emphasis on human - biodiversity relationships at different scales (the “weirdness“ of the human scale).</p>

Tuesday 4th, February – Gerard Breeman and Johannes Müller (co-chairs)

Time	Activity
10.00-10.45	<p>Johannes: short presentation on scales and scaling mismatches + brief summary of day 1 (25 minutes)</p> <p>Stakeholders: introduction of themselves and the topic they work on (20 minutes).</p>
10.45-12.00	<p><i>World café I breakout session</i>, needs and scaling mismatches, facilitated by Gerard & Johannes</p> <p>The suggestion is to have two sets of half-hour breakout sessions with the stakeholders. Each group focuses on a specific scale, and the stakeholders visit at least two groups (i.e. scales). Points to guide the discussions: which scales are at play? Which other scales can be considered, and what are challenges, strengths and opportunities that can result from there? Each room also has a report form so that participants can summarize the main points there (before the breakout session starts, appoint one participant who is responsible for note-taking).</p>

12.00-13.00	Lunch break
13.00-14.00	<i>World Café II</i> : groups report back to the other participants. Reports are collected on the wall.
14.00-15.00	<i>Focaccia session I</i> , facilitated by Margaret Gerard and Johannes Do current research agendas reflect the needs of stakeholders? How can this be accomplished?
15.00-15.30	Coffee break
15.00-16.00	<i>Focaccia session II</i> : Transdisciplinary research agenda: adjusting research to stakeholder needs.
16.00-16:30	Wrap-up and thanks to stakeholders