



sDiv working group meeting report

“sRealBioFun – Using long-term resurvey data and biodiversity experiments to predict ecosystem consequences of real-world biodiversity change”

The first meeting of the sRealBioFun group was held from 7 to 10 April 2025, bringing together researchers using long-term resurvey data to study biodiversity change with those using biodiversity-ecosystem functioning (BEF) experiments to predict the likely consequences of biodiversity change. 13 participants joined in person in Leipzig and two participants online. Participants cover a wide range of career stages, ranging from graduate students and postdocs to professors. Our primary goals were:

1. **Team Building:** Familiarize members with each other and discuss collaborative workflows.
2. **Policy Discussion:** Finalize the Data Use and Authorship Policy.
3. **Conceptual and Data Alignment:** Discuss key concepts and datasets.
4. **Project Development:** Generate and refine project ideas, assign lead authors and priorities for projects
5. **Framework Paper:** Plan out a mini-review or opinion paper to bridge observational and experimental research.
6. **Next Steps.**

Progress Toward Goals

1. Team Building

We began an icebreaker session by asking participants to share their personal journeys into ecology, key skills relevant to the project, and personal hobbies. This helped establish rapport and identify complementary expertise among team members.

2. Policy Discussion

The group reviewed and revised the Data Use and Authorship Policy in the first day and finalized it in the third day, ensuring fair and inclusive collaboration guidelines.

3. Conceptual and Data Alignment

Over the first two days, we had intense discussions about data sources, challenges in measuring species dynamics, how best to estimate species extinction risks, and strategies to link results from resurvey studies with BEF experiments. These conceptual discussions allowed us to share key results from these different subfields and discuss approaches on how each approach could inform the other. This brought participants to the same page and ignited initial ideas that we developed into specific projects in later days.

Three presentations helped members become familiar with resurvey data: (1) an overview on their strengths (e.g., different population dynamics under various temporal or geographic coverages) and challenges (e.g., data heterogeneity, rare species representation); (2) possible approaches to detect and attribute species trends from resurvey data; (3) the designs and properties of key resurvey databases. These presentations helped us to choose which databases are best for specific projects. We prioritized a few standards, publicly curated datasets for initial analyses, with plans to expand later where feasible.

4. Project Development

We combined three different activities to ignite and develop research ideas and projects. (1) We started with joint discussions to identify research ideas of common interest to a large number of participants. (2) We then separated into small groups for in-depth discussions about the framework, possible datasets and methods to use for identified specific projects. (3) In the later sessions of the meeting, after we both familiarized the people and the conceptual framework of the whole project, we asked every participant to propose one or two research ideas independently that they consider interesting and worthwhile. These independent thoughts helped us identify more ideas that might be bypassed in group discussions and brought opportunities to introverts.

Following these activities, we set priorities starting with three projects that use different approaches to predict the functioning of realistic community compositions under different scenarios. We identified datasets to be used, designed analytical frameworks, and assigned lead authors and sub-groups to work on each project. We even obtained some preliminary results for one of the projects.

5. Framework Paper

We plan to write a TREE-style mini-review paper to compare the complementary strengths of observational resurvey studies and BEF experiments for understanding and predicting the causes and consequences of real-world plant diversity change. In this, we will explore approaches, opportunities and challenges to bridge these two research fields. Small-group discussions helped develop the paper's structure and figures.

6. Next Steps

We aim to generate a first draft of the framework paper in June 2025. We are asking lead authors of each project to provide regular reports about progress. In the second meeting in 2026, we aim to review progresses of the priority projects identified in the first meeting, identify new research ideas and projects which might target for either deeper and more mechanical insights or global synthesis.

Meeting atmosphere

We had a wonderful week in Leipzig. We truly appreciated the supportive and friendly atmosphere created by iDiv staffs and all members of sRealBioFun working group. We especially appreciated the group members' patience and kindness in listening to and encouraging young researchers who are non-native English speakers. We loved strolling along flower-lined streets and exploring the city's diverse food options—perfect for refreshing tired minds and satisfying hungry stomachs after a busy day.