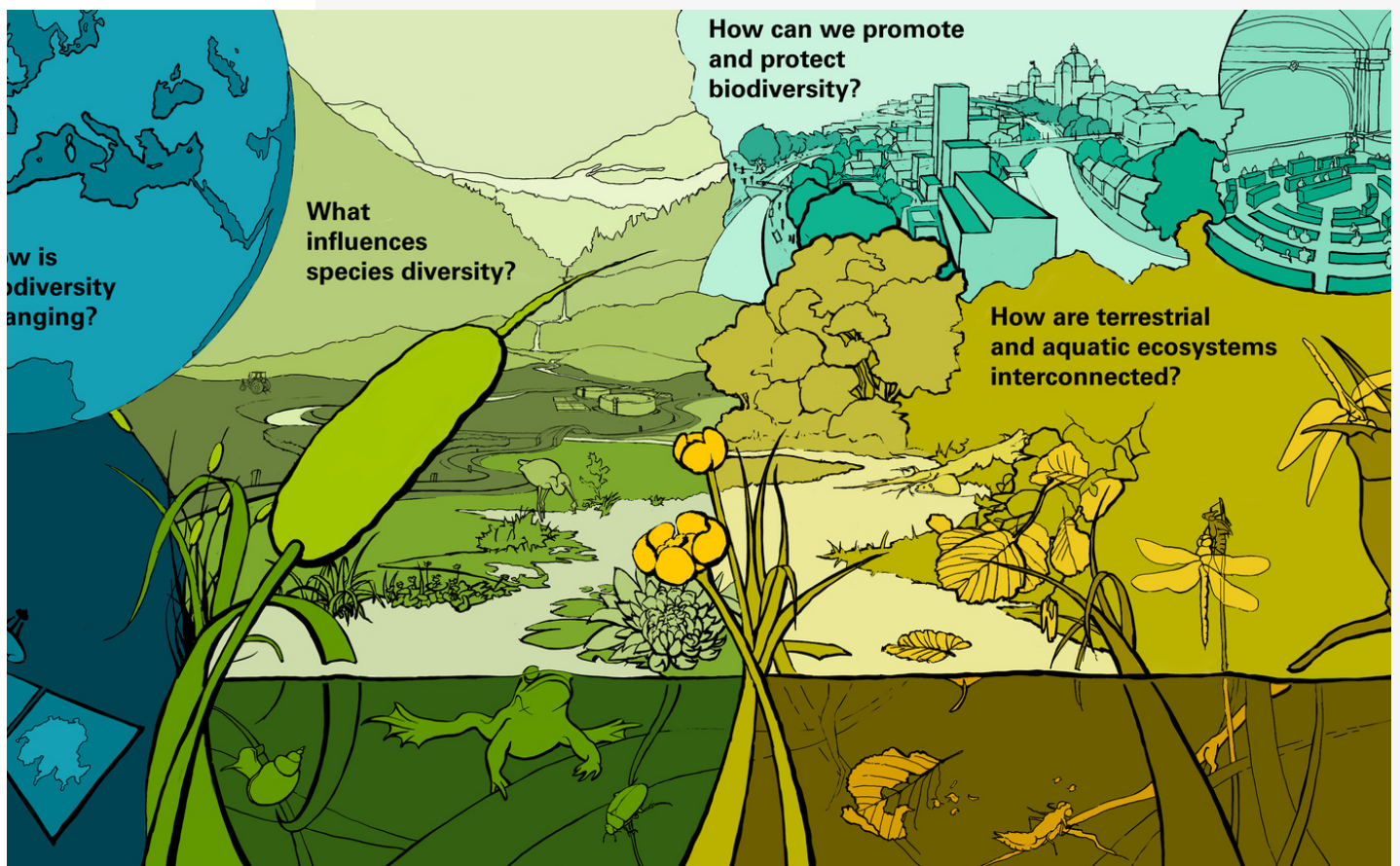


**SUMMER SCHOOL 2023**

**BLUE-GREEN BIODIVERSITY.  
RESEARCH AND PRACTICE AT THE  
INTERFACE OF AQUATIC AND  
TERRESTRIAL ECOSYSTEMS**



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**DAVOS, SWITZERLAND**

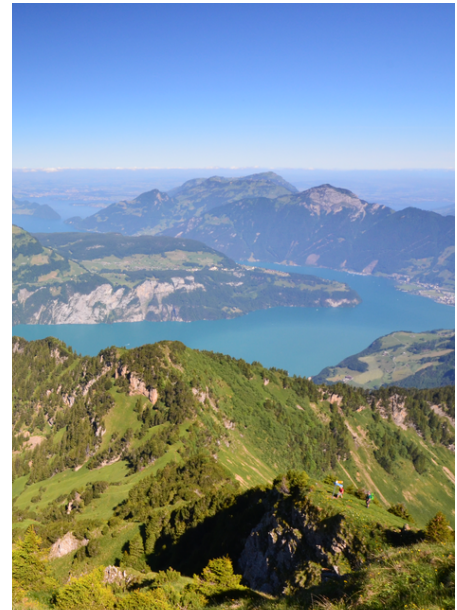
27 AUGUST - 1 SEPTEMBER 2023

# BLUE-GREEN BIODIVERSITY

Recent debates on biodiversity decline, land-use change, and the climate crisis have begun to emphasize that aquatic and terrestrial realms are intricately linked, and yet studied largely in isolation. This isolation permeates both research and application where, on one hand, major scientific institutes, departments, or centers focus on a single realm, and, on the other hand, governmental offices are often divided among ecosystem types. As a result, there is a lack of understanding of the **linkages between aquatic (blue) and terrestrial (green) ecosystems**, especially in terms of **biological diversity**, where many organisms require both types of ecosystems for survival and reproduction.

The blue-green biodiversity linkages need to be addressed from these three complementary angles:

- On the **scientific level**; the role of biodiversity in linkages between blue and green ecosystem functioning and dynamics, including the many processes and interactions within and between, towards a better understanding of cause-response relationships to develop reliable future scenarios.
- On the **applied level**; sustainable management practices that consider both blue and green ecosystems and support biodiversity under current and future climate conditions and societal needs to improve ecosystem resilience in order to safeguard the multitude of ecosystem services they provide.
- On the **economic, societal, and political level**; the economic, societal, and political framework is central to warrant the sustainable and efficient management of blue green ecosystems and infrastructure.



Credit: Morgane Brosse

## OUR SUMMER SCHOOL

The goal of the Blue-Green Biodiversity Summer School is to provide an **in-depth understanding of the linkages between aquatic and terrestrial ecosystems and the interdependencies between social and ecological systems**. While focusing on Swiss habitats, we will highlight how an integrated analysis that considers the ecological, evolutionary, and social dimensions of blue and green ecosystems benefits the conservation, maintenance, and restoration of biodiversity.

The program consists of lectures, field excursions, and group work. State-of-the-art knowledge and approaches will be presented and discussed considering the expectations of current and future blue and green ecosystems from **scientific, nature conservation, management, and socio-economic perspectives**. The participants will reflect on their own scientific work with respect to other disciplinary methods and discuss possible benefits of interdisciplinary approaches in their field.

The summer school is organized under the umbrella of the **WSL Biodiversity Center** and the **Eawag-WSL Blue-Green Biodiversity Research Initiative** (BGB Initiative). Lecturers are academics from the BGB Initiative and other research institutions, as well as practitioners. It will take place in **Davos, Switzerland**, from **27 August to 1 September 2023**.



# CONTENT

**We will cover a diverse set of topics, from the ecology and evolution of blue-green ecosystems to ecosystem services and governance. We will combine lectures, field excursions and group work to present and discuss state-of-the-art knowledge and practices.**

The content of the summer school will be based around these questions:

- How do evolutionary and ecological processes differ in aquatic and terrestrial ecosystems?
- What are the characteristics of species interactions and ecosystem processes, such as carbon recycling or toxin production, across aquatic and terrestrial ecosystems?
- How will blue-green ecosystems and their biodiversity respond to climate change and other anthropogenic drivers? How will the differences in ecological processes lead to divergent responses to human impacts across ecosystems?
- How should conservation strategies and urban development be aligned to best preserve both aquatic and terrestrial biodiversity in Switzerland?
- How should socio-ecological interdependencies and existing knowledge and attitudes of stakeholders and the public be considered to optimize the outcome of ecological restorations?
- How can an evidence-based understanding of biodiversity be used to improve policy and decision making?

In addition to the active participation in the Summer School, PhD students are expected to contribute with a **poster** addressing disciplinary and interdisciplinary interfaces of their own work to the major topics of the Summer School: natural science basics, nature conservation, management, or socioeconomic perspectives (a poster session will be held on Monday, 28 August). In addition, participants are expected to read the most important articles relevant to the major topics of the Summer School. These articles will be appointed in advance by the lecturers.

The preliminary list of speakers includes Cécile Auberson (info fauna - Centre Suisse de Cartographie de la Faune CSCF), Ariel Bergamini (WSL), Kurt Bollmann (WSL), Matthias Buchecker (WSL), Lauren Cook (Eawag), Giulia Donati (Eawag), Marius Fankhauser (WSL), Sabine Fink (WSL), Cristian Gees (ecowert), Marco Moretti (WSL), Anita Narwani (Eawag), Luca Pegoraro (WSL), Francesca Pittino (WSL), Benedikt Schmidt (UZH), Danina Schmidt (Eawag), Ryan Shipley (WSL), Ross Shackleton (WSL), and Cornelia Twining (Eawag).

Credits: Morgane Brosse (photos 1, 2 & 3) & Vanil-Noir (CC BY-NC 2.0, photo 4)

# PRELIMINARY PROGRAM

	Sun 27/8	Mon 28/8	Tue 29/8	Wed 30/8	Thu 31/8	Fri 1/9
Morning		Ecology and evolution of blue-green ecosystems (Narwani)	Participatory approaches & stakeholder engagement in environmental management (Shackleton)	Green and blue food webs (TBC)	Governance and management of social-ecological systems (Donati)	Blue-green infrastructure for biodiversity (Schmidt)
Morning		Poster session (Castro & Graham)	Differences in nutritional quality of insects from terrestrial and aquatic systems (Twining & Shipley)	Multifunctional blue-green infrastructure in cities (Cook & Moretti)	The Rock pipit ( <i>Anthus spinoletta</i> ) - a flying commuter between water and mountains (Bollmann)	Beavers: important partners for living waterways (Auberson)
Afternoon	Arrival to Hotel Shima & Welcome	Excursion: Tintenstrich (Fink & Pittino)	Excursion: Sampling in BGB habitats - AI (Pegoraro & Schmidt)	Excursion: Ecology and conservation of bogs and fens (Bergamini)	Excursion to the Dischma valley: 1. Breeding strategies in an unpredictable mountain environment (Bollmann)  2. Restoration Dischmabach (Gees)	Lay people's understanding of blue-green biodiversity and the potential of interactive & non-interactive forms of involvement to enhance their understanding (Buchecker & Fankhauser)

## APPLICATION & REGISTRATION

- The Summer School is open to **PhD students, MSc students** in their last year and **PostDocs** in biodiversity research from any country in the world. We can accommodate up to 20 highly motivated students.
- **Applications** will be evaluated according to their fitting and interest in the research topic, their evidence of academic quality, and their expected benefits from this Summer School.
- We encourage and welcome the participation of **applicants from different backgrounds** in terms of gender, origin, religion and values, gender identity or sexual orientation, age, or impairment. We aim to promote a culture of respect and inclusion among all participants in our Summer School.
- For **registration**, please provide your CV, a motivation letter (one A4 page) and your PhD thesis abstract. Registration deadline: 14 May 2023.
- **Fees:** 700 Swiss Francs (exclusive of VAT). This includes accommodation (in shared rooms) at the [Hotel Shima](#) and meals during the Summer School, course materials, and excursions. Accepted participants are expected to bear travel costs to Davos.
- For **questions**, please contact the organizing committee: [events-biodiversity@wsl.ch](mailto:events-biodiversity@wsl.ch)
- Summer School webpage: click [here](#) or scan the QR code

