Session 4: Interpreting the future: the importance of scenarios for decision-making

Dr. Sonja Jähnig – Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)

The AQUACROSS project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 642317.
Scenarios for ecosystem based management in aquatic ecosystems: AQUACROSS case studies and beyond

Dr. Sonja Jähnig – Leibniz–Institute of Freshwater Ecology and Inland Fisheries (IGB)
Previously...

Kuemmerlen et al. 2015 Freshwater Biology

www.aquacross.eu/
But wait…

Class 1
Single pressure, single subject
Direct interactions

Class 2
Single pressure, multiple subjects

Class 3
Multiple pressures, multiple subjects
Direct + indirect interactions
Conceptual frame

- **Biodiversity**
- **Ecosystem services**
  - C retention
  - Flood control
  - Cultural
- **Future management**

**Challenges:**
- Water provision
- Manufacturing

**Opportunities:**
- Compatible
  - Water provision
  - Manufacturing

**Compatibles:**
- C retention
- Flood control
- Cultural

Courtesy to S. Langhans & V. Hermoso
**Conceptual frame**

- **Biodiversity**
  - Modelled species distributions

- **Ecosystem services (ESS)**
  - Modelled spatial ESS layers

**External scenarios**
- Projected biodiversity and ESS change

**Deficits**
- Target setting, identification of gaps and uncertainties

**Management scenarios**
- Projected consequences of actions, action evaluation, prioritization

**Spatial optimization of biodiversity and ESS**
- Recommendations

**Stakeholder involvement**
- Implementation, monitoring, evaluation

Langhans et al. in press  
www.aquacross.eu/
Joint spatial prioritization

Biodiversity

Ecosystem services

Domisch et al. submitted
Joint spatial prioritization

Biodiversity

Ecosystem services


Domisch et al. submitted
Scenario types

Baseline scenarios

Alternative pathways

Martin et al. 2018, Deliverable 7.2

www.aquacross.eu/
modelling framework(s)  
scenario development  
stakeholder participation  
data management  
evaluation
  • effectivity  
  • efficiency  
  • equity and fairness
1. Scenarios for ecosystem-based-management in aquatic ecosystems: AQUACROSS case studies and beyond
   
   Sonja Jähnig, Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB), Berlin, Germany

2. The AQUACROSS Information Platform: Managing the data for the development of AQUACROSS Case Studies
   
   Juan Arevalo, Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), Paris, France

3. Global-scale scenarios and models for aquatic biodiversity and ecosystem services
   
   Jan Janse and Rob Alkemade, Netherlands Environmental Assessment Agency (PBL), Den Haag, the Netherlands

4. Inter-sectoral assessment of management scenarios based on ecosystem services
   
   Martin Pusch, Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB), Berlin, Germany

5. Table discussion & Feedback to panel
The AQUACROSS project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 642317.

Thank you!

sonja.jaehnig@igb-berlin.de
Share additional insights from your experience with scenario development, e.g.

- implication for governance/policy making
- management of the scenario development process
- time scales and resourcing
- open data issues
- or...