

Successes, challenges, and new directions for addressing social outcomes in nature-based solutions.

Marina Stavroula Melanidis¹, Guillaume Peterson St-Laurent¹, & Shannon Hagerman¹

Problem Context

Nature-based Solutions (NbS)

Actions to protect, manage, and restore ecosystems, that address societal challenges and benefit human wellbeing and biodiversity (Cohen-Shacham et al., 2016).

- An emerging approach, rapidly adopted by a range of actors, to address both climate change and biodiversity loss.
- **Key knowledge-gaps around governance remain.**
- Environmental narratives shape governance by framing problems and underpinning solutions.

Objective

Examine how the pursuit of NbS through **applied climate adaptation for conservation initiatives** by different actors is linked with **diverse visions of success**, and views about **key governance considerations** (e.g., as relates to costs and benefits, knowledge, trade-offs, and participation).

Research Questions

1. How do diverse actors involved with or affected by conservation adaptation initiatives view adaptation success? How do social aspects of conservation adaptation fit (or not fit) within these views? What trade-offs are identified?
2. What factors do diverse actors view as important in enabling success as envisioned? What key challenges or barriers do they face? What solutions/key considerations for future practice are identified?
3. How do different forms of partnerships and engagement shape consideration and/or integration of diverse forms of knowledge?

Social Science Research in the Context of NbS

Importance of Social Science Research

- **Will not achieve ecological and climate outcomes without addressing human wellbeing**—mediated by social and political factors.
- Social benefits and participation are integral to the NbS definition.
- **Participation** is necessary for just, equitable, and effective conservation in the long-term.

Key Gaps

- Social science insights (Hanson et al., 2020)
- Governance dimensions and social outcomes (e.g., costs and benefits, diverse forms of knowledge, trade-offs, participation of diverse actors).
- Empirical studies examining NbS implementation and critically exploring participation.
- **Place and context-specific metrics** for evaluating NbS.

Ways Forward

- Social science insights are needed to avoid biased, inconsistent, or unmeaningful NbS.
- Research on governance dimensions gaps.
- Empirical studies that explore **active, meaningful, and reciprocal collaboration** with local and Indigenous communities that are place and context-specific.
- Challenges: relationship-building, trust, policy integration.

Methodology and Approach

Qualitative, mixed-methods research design within a case-comparative approach (Creswell, 2013).

Study Boundaries:

- Three cases from WCS's [Climate Adaptation Fund](#) portfolio – cases are biodiversity conservation projects intending to address both adaptation and social outcomes.
- Cases vary in actor groups involved and in engagement/partnership arrangements.

Data Collection and Analysis:

- Semi-structured interviews with ~10 actors per case.
- Purposeful sampling of participants involved in and/or affected by the project.
- Iterative coding approach, guided by conceptual framework analytics.

Potential Case Studies:



Riparian restoration ([Montana](#))

With: Indigenous communities and governments
How: Co-development



Urban river resilience ([Michigan](#))

With: Local governments and civic groups
How: Collaboration and consultation



Agricultural floodplain management ([California](#))

With: Farmers and landowners
How: Targeted outreach

Anticipated Impact

- Identify the **implications of NbS projects for governance** as they are unfolding in practice.
- Bring a grounded and applicable perspective and **identify best practices** for a rapidly growing field.
- Encourage NbS projects that are effective for climate action, ecosystems, and communities.

References

Cohen-Shacham, E., Walters, G., Janzen, C., & Maginnis, S. (eds.) (2016). *Nature-based solutions to address global societal challenges*. Gland, Switzerland: IUCN. Xii + 97pp.
Creswell, J. W. (2013). *Qualitative inquiry and research design: choosing among five approaches*. SAGE Publications, Inc.
Hanson, H. I., Wickenburg, B., & Alkan Olsson, J. (2020). Working on the boundaries—How do science use and interpret the nature-based solution concept? *Land Use Policy*, 90(104302), 1–16.

Contributions from the Environmental Social Sciences

Environmental narratives and governance



- The integration of a **diversity of actors and knowledge systems** is critical for success.
- A diversity of governance instruments is necessary for environmental challenges.
- **Power and politics** play a significant role in shaping outcomes.
- **Narratives** actively shape all aspects of governance.

Climate change adaptation for conservation



- “Forward-looking” conservation anticipates change and features **collaboration**.
- **Place-specific understandings** that take local contexts into account and centres social outcomes are required.
- Ecosystem-based adaptation is a framework to link human and natural systems within adaptation approaches.

Climate change adaptation success



- **Effectiveness, efficiency, equity, and legitimacy** are important to judge success.
- Adaptation is rooted in **socio-political contexts**.
- Evaluation metrics must address **power and vulnerability** by reflecting the needs of local communities.

