Designing governance interventions in transforming systems: case studies of biodiversity planning for the Australian Alps and Tasmanian Midlands

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Abstract

Presentation 2 for session "Governance design for transformation and adaptation in social-ecological systems" Current strategies to stem global biodiversity losses are struggling to be effective, and this is particularly acute for threatened ecosystems with limited options under climate change. Our social-ecological assessments of the alpine landscapes of the Australian Alps and the predominantly agricultural landscape of the Tasmanian Midlands suggest that the future challenge for these focal systems are inevitable transformation for biodiversity. In this presentation, we will provide an overview of the resilience assessment techniques we used together with stakeholders in both case study contexts to determine key drivers of change, construct future scenarios, and diagnose institutional and governance arrangements to identify points of intervention. For the Australian Alps, we found that changes in invasive processes, fire regimes and the tourism industry brought on by climate change were key drivers affecting biodiversity outcomes, along with changes in community values and attitudes. For the Tasmanian Midlands, the key drivers were farmer profitability and social and human capital. Our novel contribution has been to explicitly address governance influences as an integral part of all the techniques we used. Improving biodiversity outcomes requires proactive human intervention, but such efforts can be undermined if inherent and persistent governance failures are not addressed. For the Australian Alps, the process of negotiating system transformation requires deliberate and inclusive governance approaches through which all stakeholders can collectively address the inevitable loss, attempt to minimise the resulting value deficits, and identify and seek to take advantage of new possibilities. Having governance arrangements that enable flexible, adaptive management and comprehensive engagement of stakeholders are critical to shaping desired futures. The approach and tools we used can be readily applied to other landscape-scale biodiversity planning contexts.

Keywords: Governance, Transformability, Adaptability, Social, ecological systems, Scenario analysis, Biodiversity, Resilience assessment

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