Linking Resilience Thinking and Structured Decision Making For Natural Resource Planning and Management

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Abstract

In order for a complex social-ecological systems paradigm to adequately alter how natural resources are actually managed, it is critical that resilience assessments be linked to clearly defined management strategies. A resilience assessment alone will not necessarily lead to improved management and does not explain how to manage for resilience. Structured decision making (SDM) has been advocated as an organized process for making smart decisions that are informed by both technical knowledge and an understanding of human values. Structured decision making is sometimes viewed as a necessary (but not sufficient) condition for adaptive management. As adaptive management has been suggested as the only way to implement resilience management, it would seem that resilience thinking and structured decision making would benefit from being strategically linked for the purposes of natural resource planning and management. We start by summarizing sources of guidance readily available to natural resource management practitioners related to resilience assessment and structured decision making. Building from these guides and the literature discussing the relationship between resilience and decision science, we discuss how resilience thinking can inform a SDM process and what SDM has to offer resilience thinkers. We then propose a unified resilience/SDM framework for natural resource planning and management that we believe fits the complex social-ecological systems paradigm.

Keywords: structured decision making, planning, management, adaptive management