

## **Resilience across the spectrum of social-ecological systems: Applying reconciliation ecology to governance of diverse human settlement systems**

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Ecosystem management and planning has broadened in focus and perspective -- from earlier management for resource uses with extraction ecology (e.g., timber with "New Forestry") and reservation ecology (e.g., wilderness preservation and management), to more recent management for ecological restoration (e.g., endangered species reintroduction), and most recently to the emerging practice of reconciliation ecology (e.g., ecosystem services). We explore the concept of resilience in the context of this evolving understanding of the governance of diverse social-ecological systems, and in particular its implications for environmental management in a variety of human settlement systems. These systems can be conceptualized as representing a continuum from wildland (undeveloped and unsettled), to wildland-urban interface (dispersed settlement), to rural settlement (villages and small rural towns), to small urban settlement (small cities), and finally to large urban settlement (large cities). Traditional resource management and monitoring systems tend to take top-down approaches to promoting the resilience of ecological systems while managing for their benefits -- whether through intensive resource management or through natural regulation and "hands-off" management of natural areas. In contrast, governance for increasing ecological resilience in more densely human-populated systems seems to focus more on community resilience through bottom-up approaches that represent a more participatory, collaborative management model. These adaptive approaches seek to capitalize on social, economic, and human capital by promoting civic involvement through diverse community initiatives, such as neighborhood projects and local agency-community partnerships. We provide brief examples of adaptive activities at different scales on this continuum to clarify the complex role of scale in diverse social and economic systems, their relation to managing ecological systems at a variety of scales, and their ramifications for governance for greater resilience across a spectrum of social-ecological systems based on human settlement.