Social-ecological System Resilience, Climate Change, & Adaptive Water Governance

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Water, in addition to its role in sustaining human life, supports ecosystems that provide many of the services society relies on. Yet our governance of major water systems has not placed them on a path toward sustainability. Resilience thinking provides a bridging concept between knowledge of the biophysical system and governance principles to move systems of water and society to a more sustainable future. Resilience is a measure of the amount of perturbation a social-ecological system can withstand while maintaining its structure and functions. Research to facilitate sustainability in major water basins must focus not only on ecological resilience, but on how to achieve that resilience in a manner perceived as legitimate by the participants in a democratic society and that begins with the current hierarchical and fragmented system as the baseline from which new approaches must be applied. Achieving this level of integration between ecological concepts and governance requires a dialogue across multiple disciplines, including ecologists with expertise in ecological resilience, hydrologists and climate experts, with social scientists and legal scholars.

This Pursuit seeks to explore whether criteria and models can be developed to link ecological resilience and the policies governing the process of water management in complex, multi-jurisdictional water basins, and will contribute to the growing effort to connect concepts from science to policy decisions and to move social-ecological systems toward greater sustainability.

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