

Summary of SSI Research Goals, Objectives, Measurable Outcomes and Outputs, and Deliverables

Goal	Investigate the dynamics of social-ecological systems, with particular emphasis on SES resilience.				
Objectives	Examine how and why SES feedbacks differ for urbanization, forest management, and climate change.	Determine whether patterns of urbanization, forestry, and climate change offer similar or contrasting insights into the existence and strength of SES thresholds.	Analyze how the likelihood of encountering and crossing thresholds is affected by interacting, multi-scale system components.	Investigate how the ability to understand and predict system thresholds depends on the capacity to monitor system feedbacks at multiple spatial and temporal scales.	Define what indicators best measure change and permit detection of proximity to thresholds.
Measurable Outcomes and Outputs	<ul style="list-style-type: none"> • Enhanced understanding of SES based on ability to evaluate context-dependent dynamics. • Increased ability to identify the roles of thresholds and feedbacks for different SES. • Vulnerability analyses that inform mitigation and adaptation strategies. • Predictive models of SES dynamics, including sensitivity analysis of critical causal pathways. • Comparative assessment of different modeling approaches for understanding and predicting SES dynamics. 				
Deliverables	<ul style="list-style-type: none"> • Models for understanding how SES dynamics vary as a function of biophysical and socioeconomic contexts. • Comparative evaluation of the roles played by thresholds and feedbacks in SES dynamics. • Models of SES as complex adaptive systems. • Guidance for identifying and monitoring key system attributes to assess SES dynamics and resilience. • Conference presentations and peer-reviewed research papers. 				

<p>Goal</p>	<p>Examine connections between scientific knowledge regarding SES dynamics and stakeholder actions that potentially affect SES resilience.</p>			
<p>Objectives</p>	<p>Examine processes by which knowledge derived from SES research affects stakeholder actions and the extent to which stakeholders influence the research processes.</p>	<p>Develop methods for achieving a closer coupling between the societal demand for and supply of science products.</p>	<p>Determine how information affects collective action processes, including the potential for agents to shape SES resilience and the SES characteristics that facilitate effective governance.</p>	<p>Create a set of systematic, rigorous, and replicable models to evaluate decision-making processes regarding landscape dynamics, using differences in decision-making environments among the three landscape change arenas as a quasi-experimental system.</p>
<p>Measurable Outcomes or Outputs</p>	<ul style="list-style-type: none"> • Increased understanding of reciprocal interactions between the supply of and demand for sustainability-related knowledge. • Greater ability to determine when scientific information is a rate-limiting step for individual and institutional decision-making. • Comparative assessment of the roles played by biophysical, socioeconomic, and stakeholder contexts in affecting K↔A interactions. • Increased stakeholder participation in framing key K-A problems and research needs. • Increased awareness of and appreciation for university research by diverse stakeholders. 			
<p>Deliverables</p>	<ul style="list-style-type: none"> • Analysis of knowledge, values, attitudes, and behaviors from surveys, interviews, and focus groups. • Identification of best practices for strengthening K↔A interactions. • Predictive models of how relationships among stakeholder values, attitudes, and behaviors vary with biophysical, socioeconomic, and stakeholder contexts. • Evidence-based strategies for communicating complex scientific information. • Conference presentations and peer-reviewed research papers. 			

Goal	Analyze organizational processes that influence interdisciplinary collaboration and university-stakeholder engagement.	
Objectives	Investigate factors facilitating and hindering interdisciplinary collaboration.	Evaluate processes that affect the characteristics of research partnerships between universities and stakeholders.
Measurable Outcomes or Outputs	<ul style="list-style-type: none"> • Comparative analyses of how interdisciplinary research teams communicate and make decisions. • Longitudinal study of how interdisciplinary collaborations change over time. • Comparative analyses and longitudinal studies of the formation, evolution, and durability of university-stakeholder partnerships. 	
Deliverables	<ul style="list-style-type: none"> • Identification of individual and institutional “best practices” for promoting and supporting interdisciplinary teamwork. • Identification of best practices for building and sustaining university-stakeholder partnerships. • Conference presentations and peer-reviewed research papers. 	