

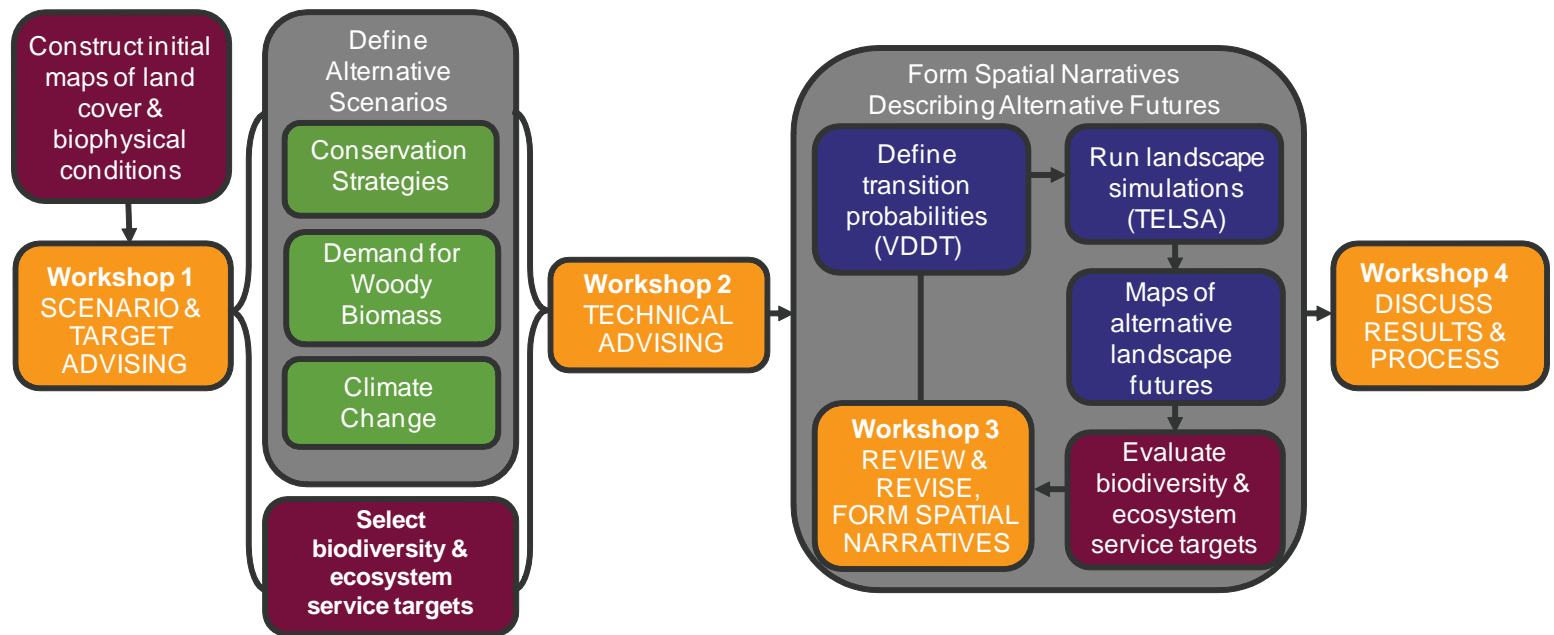
Effective Strategies?

Scenarios to Inform Broad-Scale Forest Conservation

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Conservation strategies are shifting to distribute protection efforts over larger areas and a broader range of ownerships and management techniques. These 'distributed conservation strategies,' such as working forest conservation easements, are based on the premise that blending resource extraction, such as sustainable timber harvest, and conservation should yield greater socio-economic benefits without significantly compromising the conservation of biodiversity or the sustainable provisioning of ecosystem services. However, many of these strategies are in their infancy, and monitoring efforts aimed at evaluating their effectiveness span decades or longer, limiting their immediate applicability. At the same time, climate change may profoundly influence forest resilience to management strategies in the coming century. As a result, there are many possible scenarios for the future of our forests leading to significant uncertainty for managers and decision makers.

Project Aims. We are building scenarios to identify the potential trajectories and conservation outcomes for forested landscapes under various conservation strategies, climate change projections, and resource demand. This project will focus on two study sites—the Wild Rivers Legacy Forest (WRLF) of northeastern Wisconsin and the Two-Hearted River Watershed (THR) of Michigan's Upper Peninsula.



Scenario Approach. The spatial narratives resulting from this study will evolve from a synthesis of quantitative, spatially explicit landscape modeling and qualitative distillation of expert knowledge.

Spatially explicit landscape simulations will be run from 50 to 150 years with management options for each conservation strategy, under varying climate change projections and resource demand. In an iterative process, experts will qualitatively inform the quantitative steps and build a conversation about the reality of simulations and projections. This expert 'infusion' will happen via four interactive in-person and web-based workshops involving both local experts for each study area and a Steering Group. We will connect these pieces by forming spatially explicit storylines and accompanying maps of potential future landscapes that offer insight into possible landscape scenarios and their likely conservation outcomes.

We expect these scenarios to inform TNC's ongoing forest monitoring projects and adaptive management to sustain biodiversity and ecosystem services. Ideally, this framework will be applied more broadly to consider new, high-risk strategies seeking to balance cost-effectiveness, biodiversity conservation, and maintenance of ecosystem services in other forest settings.