



## S<sup>3</sup> RCN WORKSHOP II: SCENARIOS TO SIMULATION

February 26<sup>th</sup> - 27<sup>th</sup>, 2015

The [Hanover Inn](#) and Dartmouth College, Hanover, NH

**Convener:** Scenarios, Services, and Society Research Coordination Network ([S<sup>3</sup> RCN](#)), through funding to the Harvard Forest

**Host:** Mark Borsuk, Associate Professor, Thayer School of Engineering at Dartmouth College.

**Organizers:** Jonathan Thompson, Senior Ecologist at Harvard Forest; Kathy Fallon Lambert, Director of the Science and Policy Exchange at Harvard Forest; and Katie Theoharides, Theoharides Consulting

**Facilitator:** Pat Field, Managing Director of the Consensus Building Institute.

### **Description:**

Having agreed on the value of examining stakeholder-defined land-use scenarios for identifying sustainable futures in New England, the S<sup>3</sup> RCN is now seeking to define a suite of best practices for incorporating qualitative narrative scenarios into quantitative simulations of land change. Josef Alcamo, in his work crafting the Millennium Assessment scenarios, referred to this as “the challenge of integrating story and simulation.”

This day and a half workshop will bring together the S<sup>3</sup> RCN steering committee, collaborators, and invited speakers to learn from past scenario research collaborations, review the state of the art, and begin to develop a synthesis manuscript.

### **Objectives:**

1. To critically assess the strengths, weaknesses, and trade-offs of common approaches for faithfully translating narrative scenario storylines into simulated land-use regimes.
2. To identify best practices for land-change scientists to determine when and how to co-develop model parameterizations with the stakeholders.
3. To use real scenarios to outline criteria for selecting models that best capture the dynamics and outcomes that are relevant within the scenarios and important to the stakeholders and the advancement of science.

## AGENDA

### THURSDAY, FEBRUARY 26, 2015

**8:30 am**      **Welcome**  
Mark Borsuk, Dartmouth College

**8:45 am**      **Introduction to the S<sup>3</sup> RCN and lessons from Workshop 1: Sebago Lake**  
Kathy Fallon Lambert, Harvard Forest  
Jonathan Thompson, Harvard Forest

**9:00 am**      **Participant Introductions**

### **SESSION 1: Strength, Weaknesses, and Tradeoffs of Different Approaches**

Key Questions:

- What approaches are available to translate narrative scenarios into quantitative land-use model simulations?
- What are the strengths, weaknesses, and trade-offs of each approach?

**9:30 am**      **[From narrative to simulation: a literature review](#)**  
Varun Mallampalli & Georgia Mavrommati, Dartmouth College

**10:00 am**      **[From scenarios to simulation in the Yahara Watershed, Wisconsin](#)**  
Eric Booth, University of Wisconsin, Madison

**10:15 am**      **[Implications of alternative scenarios-to-simulation strategies](#)**  
Dan Brown, University of Michigan, Ann Arbor

**10:30 am**      **Break**

**10:45 am**      **Breakout Groups**  
Breakout into four groups to do two things: (1) Discuss the extent to which the literature review captures the participant's range of experiences. (2) Build on the typology of approaches in the draft matrix (add rows if needed), and identify strengths, weaknesses and trade-offs associated with each added approach.

**11:45 am**      **[Plenary: A systems-based perspective on simulating scenarios](#)**  
Steve Peterson, Dartmouth College

**12:30 pm**      **Lunch**

### **SESSION 2: Stakeholder Involvement in Scenario Translation to Models**

Key Questions:

- What do we ask stakeholders during the scenario narrative development process to facilitate the “model translation” process and how do we facilitate this process?
- Who should participate in the scenario development process (from development to assessment) and in what ways?
- What sorts of active and passive methods and analyses can provide wider context for scenarios?
- Or, how do we determine the “right” amount of stakeholder involvement?

**1:30 pm**     [Decoding the language of stakeholders to inform watershed/landscape modeling](#)

Caroline Gottschalk Druschke, University of Rhode Island

**1:45 pm**     [The case for limited stakeholder involvement](#)

Mark Borsuk, Dartmouth College

**2:00 pm**     **Breakout Groups**

Participants break into four groups. Each group is assigned two questions from the list above and creates brainstorm responses and possible best practices for those questions.

**2:35 pm**     **Report Back**

**3:00 pm**     **Break**

**SESSION 3: Aligning Scenarios and Models**

- Key Question:
  - o How much detail and what kind of detail is needed for modeling land-use scenarios?

**3:25 pm**     [Crafting scenarios with ecosystem services in mind](#)

Emily McKenzie and Nasser Olwero, World Wildlife Fund

**3:40 pm**     **From interviews to agents: applying mental models to inform decision-making in land use change simulations**

Arika Ligmann-Zielinska, Michigan State University

**3:55 pm**     [Quantitative methods for land-change science](#)

Gil Pontius, Clark University

**4:10 pm**     **Breakout Session**

5:00 pm **Report Back**

6:00 pm **Reception and Dinner at the Hanover Inn**

**FRIDAY, FEBRUARY 27, 2015**

9:00 am **[Introduction to NH Scenarios](#)**  
Mark Borsuk

9:30 am **Working Session**

**Objective:** To “learn by doing” by applying three different methods for translation of the qualitative New Hampshire scenarios into quantitative model inputs.

11:00 am **Report Back** (10 minutes each)

11:30 am **Discussion and group feedback on workshop paper outline and closing**  
Mark Borsuk

12:30 pm **Boxed Lunch and Adjourn**

1:30 pm **S<sup>3</sup> RCN Planning Meeting**

