



S³ RCN WORKSHOP II: SCENARIOS TO SIMULATION

February 26th - 27th, 2015

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

Convener: [Scenarios, Services, and Society Research Coordination Network](#) (S³ 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

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

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Description:

Having agreed on the value of examining stakeholder-defined land-use scenarios for identifying sustainable futures in New England, the S³ 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 S³ 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 review common approaches for simulating land-use regimes that faithfully characterize pre-defined narrative scenarios and to identify the strengths and weakness of these approaches.
2. To identify best practices for land change scientists to co-develop model parameterizations with the stakeholders who articulated the scenarios.
3. To identify best practices with regard to identifying models that are best able to capture the dynamics and outcomes that are relevant within the scenarios and important to the stakeholders.

AGENDA

THURSDAY, FEBRUARY 26, 2015

- 8:30 am Welcome**
Mark Borsuk, Dartmouth College
- 8:45 am Introduction to the S3 RCN and lessons from Sebago Lake**
Kathy Fallon Lambert, Harvard Forest
- 9:00 am 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?
- 9:00 am From Narrative to simulation with stakeholders**
Varun Mallampalli & Georgia Mavrommati
Presentation of results from literature review with emphasis on (1) how each project simulated the major components of the land use regime (i.e. type/intensity, amount, spatial distribution of land uses) (2) how much stakeholder involvement (3) how the models were chosen.
- 9:30 am Break**
- 9:45 am From scenarios to simulation in the Yahara Watershed, Wisconsin**
Eric Booth, University of Wisconsin, Madison
- 10:10 am Implications of alternative scenarios-to-simulation strategies**
Dan Brown, University of Michigan, Ann Arbor
- 10:30 am Discussion Session/Breakout Groups**
Breakout groups create typology of approaches, identify strengths, weaknesses and trade-offs associated with each approach, and create flow chart for researchers contemplating different approaches.
- 11:30 am Plenary: A systems-based perspective on simulating scenarios**
Steve Peterson, Dartmouth College
- 12:30 pm Lunch**
- 1:30 pm SESSION 2: Stakeholder Involvement in Scenario Translation to Models**
- Key Questions:

- What do we ask stakeholders during the scenario development process to facilitate the “model translation” process?
- How should we collect information so that it supports accompanying social science research and modeling?
- How to capture within scenario heterogeneity across large landscapes?
- What are the tradeoffs with respect to legitimacy and buy-in vs. time and fatigue?

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 Discussion Session/ Breakouts

Address a specific set of questions regarding extracting the necessary information, stakeholder fatigue, maintaining ownership of process, etc.

3:00 pm Break

3:10 pm SESSION 3: Aligning Scenarios and Models.

- Key Question:
 - o How much detail and what kind of detail is needed for the land use modelling of the scenarios?
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3:10 pm Scenario building with adaptable modeling

Arika Ligmann-Zielinska, Michigan State University

3:25 pm Quantitative methods for land change science

Gil Pontius, Clark University

3:40 pm Crafting scenarios with a model in mind

TBD

4:00 pm Discussion Session: Use an example of a specific narrative scenario and ask them what their model will be able to do with that scenario. How to recognize the salient objectives, Can the models capture the dynamics of interest?

FRIDAY, FEBRUARY 27, 2015

Agenda TBD

9:00 am Proposed Scenario Elicitation Strategy for the S3 RCN

Kathy Fallon Lambert, Harvard Forest

9:30 Working Session

Objectives: To apply what we've learned to the New England case study.

- Will include an activity that has participants analyze a suite of general narrative land use scenarios and determine the (1) needed information to parameterize and model (2) the potential value of stakeholder involvement in running the model (3) the advantages and disadvantages of different modeling approaches.
- Review the New England Scenarios engagement strategy

12:30 pm Boxed Lunch and Adjourn

1:30 pm Planning meeting for S3 RCN Steering Committee Members and Collaborators