

Bioenergy, Sustainability, and Land-Use Change Report Oak Ridge National Laboratory (ORNL) November 2014

Publications:

Costanza R, K Chichakly, V Dale, S Farber, D Finnigan, K Grigg, S Heckbert, I Kubiszewski, H Lee, S Liu, P Magnuszewski, S Maynard, N McDonald, R Mills, S Ogilvy, PL Pert, J Renz, L Wainger, M Young, CR Ziegler (In press) Simulation games that integrate research, entertainment, and learning around ecosystem services. *Ecosystem Services*.

Efroymson RA, VH Dale (2015) Environmental indicators for sustainable production of algal biofuels, *Ecological Indicators* 49:1-13.

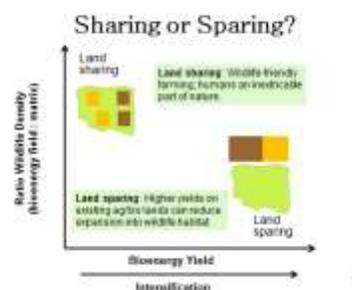
Pollesch N, VH Dale (In review) Applications of aggregation theory to sustainability assessment. *Ecological Economics*.

ORNL Presentations:



November 2-5- Esther Parish of ORNL's Environmental Sciences Division spoke on the topic "*Designing Bioenergy Systems for Multiple Environmental Services and Socioeconomic Benefits*" during a bioenergy symposium that was part of the American Society of Agronomy International annual meeting in Long Beach, Calif.

November 17 – Yetta Jager presented "Designing Landscapes for Wildlife" to the BETO Hydrology/Water Quality Modeling Group webinar.



November 18-20 –Keith Kline supported the planning and execution of the workshop on Biofuels and Food Security Interactions hosted at the International Food Policy Research Institute (IFPRI) in Washington, D.C., November 18-20. Virginia Dale of ORNL was also among the 60 participants from around the globe who examined learnings from recent analyses and field experiences to gain a better understanding of the complex relationships among biofuels and food. Participants identified

issues and steps to move forward in manners that integrate bioenergy production with improved land management for food and other services. The issues of food security and biofuel policy effects are extremely context-specific, defying simplification and generalization.

Approaches to modeling biofuel policy impacts on food merit review based on evidence. More information can be found at <http://www.ifpri.org/event/workshop-biofuels-and-food-security-interactions>

CBES FORUM

November 12 - Evaluating the effects of woody biomass production for bioenergy on water quality and hydrology in the southeastern United States Speaker: Natalie Griffiths, ORNL

Other ORNL Activities:

The sustainability team at ORNL contributed to teams developing draft proposals in response to the DOE “Funding Opportunity Announcement: Landscape Design for Sustainable Bioenergy Systems.” The team offered expertise as a partner that can build on and complement other federally-funded work related to the interdisciplinary approach to sustainability indicators, landscape design paradigm for scenario development, and communication tools.

18 November - Davis and Kline worked with the US Technical Advisory Group and Mirror Committee for ISO 13065, Sustainability Criteria for Bioenergy, to finalize and submit US comments on the Draft International Standard. The US vote was negative due to the need for further clarification of ambiguous requirements in the current draft.

26 November – Davis and Kline incorporated comments received on two draft manuscripts involving international collaborators on (a) soil organic carbon measurement, and (b) strategic role of Brazil in development of bioenergy markets.

Upcoming ORNL Visits/Events:

December 1-3 – Keith Kline will participate in two BE-Basic workshops and meet with colleagues at Utrecht University on collaborations to assess the sustainability of the Southeastern U.S. wood-residue for bioenergy supply chain.

December 2-5 – Virginia Dale will participate in the Advisory Committee review of the Energy Biosciences Institute (EBI) in California.

December 15-19 – Natalie Griffiths will present a poster titled “Water quality response after two years of short-rotation pine management for bioenergy in the southeastern U.S.” with co-authors C.R. Jackson, J.J. McDonnell, M. Bitew, E. Du, and J. Klaus at the AGU fall meeting.

January 17-23 – Keith Kline and Maggie Davis are invited to attend the International Organization for Standardization (ISO) PC 248 Plenary as U.S. delegates to review committee comments and prepare the draft international standard (DIS) of ISO 13065, Sustainability Criteria for Bioenergy.