

Bioenergy, Sustainability, and Land-Use Change Report Oak Ridge National Laboratory (ORNL) April 2013

ORNL Publications:

Keith L. Kline KL, Singh N, Dale VH. Cultivated hay and fallow/idle cropland confound analysis of grassland conversion in the Western Corn Belt (Letter submitted to the Proceedings of the National Academy of Sciences)

CE Ridley, HI Jager, CM Clark, RA Efroymsen, C Kwit, DA Landis, ZH Leggett, and DA Miller. In press - 2013. Debate: Can bioenergy be produced in a sustainable manner that protects biodiversity and avoids the risk of invaders? To appear in the July issue of the Bulletin of the Ecological Society of America.

ORNL Presentations:

April 2-4 – Virginia Dale was the guest plenary speaker at the 2013 Conference on Invasion Biology, Ecology and Management Conference in Lexington, KY. She presented “Land use in the context of species’ invasions, climate change, and energy choices.”

April 9 – Keith Kline served on a panel organized by the University of Tennessee, AmeriCorps and Peace Corps to share experiences from Volunteer service (Peace Corps, 1980-83) and subsequent influences on professional careers. Projects for clean renewable energy including major improved cook stove initiatives were described, and questions from the audience of prospective volunteers were fielded.

April 9-13 – Latha Baskaran presented “Cross-Scale Analysis of Factors Affecting Aquatic Macroinvertebrate Distribution in Tennessee” at the Association of American Geographers (AAG) annual meeting in Los Angeles, CA.

April 14-18 – Esther Parish and Virginia Dale presented at the annual symposium of the US chapter of the International Association of Landscape Ecologists in Austin, TX. Dale presented “Selecting and Deploying Indicators for Sustainability of Bioenergy Systems.” Parish presented “Land use in the context of species’ invasions, climate change, and energy choices”

ORNL Center for BioEnergy Sustainability (CBES) Forums:

April 18 – Latha Baskaran presented “Studying the potential of aquatic macroinvertebrates as indicators of bioenergy-related land-use changes.” This presentation can be accessed at the CBES website under forums: <http://www.ornl.gov/sci/ees/cbes/forums.shtml>

Other ORNL Activities:

Distinguished Landscape Ecologist awarded to Virginia Dale by the United States Regional Association of the International Association for Landscape Ecology.

April 22 – Debo Oladosu attended the session on “Industrial Biotech and the Renewable Fuels Standard: Impact on the Biobased Economy” at the BIO International Convention. Zia Haq, Analysis Program Manager at the Bioenergy Technologies Office (BETO), presented an overview of the biofuel activities at DOE and discussed recent findings from published project paper on “Global economic effects of US biofuel policy and the potential contribution from advanced biofuels”.

International Organization for Standardization (ISO PC248, Sustainability Criteria for Bioenergy): ORNL continued to contribute to four Working Groups via webinars and technical discussions each week in efforts to produce a second Committee Draft by June. Davis organized a working group webinar on the state of the science of indirect effects and ORNL presented two recent publications for consideration for the next report and annotated bibliography.

Kline and Davis contributed to planning for implementation of the "Sustainability, Ecosystem Services, and Bioenergy Development across the Americas" Partnership for International Research and Education (NSF-PIRE) project and submitted comments on site-selection criteria for bioenergy case studies.

Keith Kline, Debo Oladosu, and Virginia Dale continued their discussion with colleagues at the Food and Agriculture Organization (FAO) about ways to design sustainable bioenergy systems to foster energy and food security.

Upcoming ORNL Visits/Events:

May 7-8 – NREL/ORNL Bio-LUC model and land use change (LUC) modeling review workshop at ORNL.

ORNL Resource Analysis is coordinating team meetings with the Sun Grant Initiative (SGI) Regional Feedstock Partnership Field Trial Partners and Resource Assessment team to synthesize the results of the yield trials for national potential yield modeling of energy crops and residues. The meetings with each of the energy crop teams will occur in various locations across the country, including Oregon State University, Oak Ridge National Laboratory, Mississippi State University, Kansas State University, and other locations to be determined. The final product will be a series of average crop productivity maps at high spatial resolution generated using a uniform methodology and climatological and soils datasets. The first two meetings will occur May 7-9 in Raymond, MS (Energycane) and May 28-29 in Corvallis, OR (Switchgrass).

May 13 – Virginia will be a keynote speaker at the University of Georgia's Bioenergy Systems Research Institute (BSRI) retreat, at which the focus is "Sustainability and Bioenergy Systems."

May 20-24 – Several ORNL scientists will present an overview of their projects at the BETO Peer Review in Alexandria, Virginia. The peer review documentation and corresponding presentations will be available to the public at the DOE Biomass Technologies website:

https://www2.eere.energy.gov/biomass/peer_review2013/Portal/portal.html

May 23 – Virginia Dale will participate in the White House Women's Leadership Summit on Climate and Energy, Washington, D.C.

May 27-31 – Keith Kline and Maggie Davis will participate in meetings on sustainable biofuels being organized under two National Science Foundation (NSF) projects (the Latin American Research Coordination Network and the Program for International Research and Education) hosted by Argentina and implemented through Michigan Technology University.

June 21 – Virginia Dale will present "Environmental and Socioeconomic Indicators for Sustainability of Energy Innovation" at the Association for Environmental Studies and Sciences (AESS) conference in the session on "Energy Poverty, Disruption and Scarcity" in Pittsburg, PA.

August 13-15 – Martin Schweitzer will be attending the International Energy Program Evaluation Conference in Chicago, IL.

Matt Langholtz and Laurence Eaton will lead a webinar on August 21 with North Carolina State University Forestry Extension on the topic of Projections of Agricultural Land Use for Bioenergy Production. The webinar will be hosted at <http://www.forestrywebinars.net/>. The audience will be natural resource professionals, private landowners, and the general public.

October (dates to be determined) – International Organization for Standardization (ISO) PC 248 Plenary to review second committee draft of ISO 13065, Sustainability Criteria for Bioenergy.