2012 LTER ASM Working group Report: Perennialization in urban, peri-urban, and rural landscapes to enhance ecosystem services.

Organizer: Christine Sprunger
Co-organizer: Brad Gottshall

Participants: Vera Pfeiffer, Jiangvaw Qiu, Dan Schlatter, Tara Ursell, Jennifer Davis, Brendan O'Neill, Ariane Peralta, Nikhil Jaikumar, Clare Kazawki, Karie Cherwin

September 11, 2012 Agenda:

1:30 PM-2:30 PM

1. Introduction of organizers
2. Motivation for working group and goals for discussion
3. Ecosystem Services and Disservices in Urban Landscapes
    - Identify ecosystem services and disservices in Urban Settings
    - Can perennial systems enhance ecosystem services in urban settings?
    - What specific ecosystem trade-offs might occur?
4. Ecosystem services and disservices in Agriculture
    - Identify ecosystem services in Agriculture
    - Discussion regarding new perennial crops
    - Case-study presenting findings from a perennial wheat ecosystem services trial.
    - What type of trade-offs might we expect from perennial grains?

2:30-3:30

5. Introduction of participants
    - Name, site, and specific ecosystem services that are being quantified at home site.
6. Open discussion on ecosystem services at LTER sites across an urban and rural gradient.
7. Discuss ecosystem services baseline data collection at urban and rural LTERs
8. Discussion regarding potential meta-analysis regarding ecosystem services at LTER sites.

Report:

The goal of this workshop was to explore perenniality across a landscape gradient (urban, peri-urban, and rural) and discuss potential ecosystem services that these perennial systems may provide. Twelve people were in attendance and six LTER sites were represented. In the first half of the working group, the co-organizers laid out the agenda and presented ecosystem services across a landscape gradient and presented opportunities for perennialization to enhance ecosystem services.

We had an engaging conversation regarding different ecosystem services across various landscapes and the various trade-offs that occur when trying to manage for specific services. People offered various ecosystem services and disservices present in their home LTERs and neighborhoods. The group discussed ways in which we can gain a better understanding for ecosystem services and better quantify services and disservices across site. Participants were

most interested in identifying a specific disservice comparing it across various LTER sites by utilizing available data sets provided by the LTER community.

Proposal:

- Compare nitrate leaching under annual and perennial plant systems (Ex: perennial and annual grasslands).
- Identify specific LTER sites that have lysimeter (or other indicator measurements) data for different plant systems
- Develop a cross-site meta-analysis using ecosystem service indicators historically collected across LTER sites

Communication:

- We plan on staying connected through email.