Pacific Northwest Green Infrastructure Round Table:
Applying a social-ecological systems approach to managing green stormwater infrastructure for environmental health and human well-being

Workshop Outcome and Purpose: Our goal is to gather a diverse group of scientists, planners and designers to pool their experience to identify the desired functions, metrics of success, and key impediments and opportunities for urban stormwater systems. Workshop outcomes will be developed into a white paper on priorities for future research. We will initiate the meeting by presenting the initial findings from our pilot study on both stormwater plants and microbes, and social components of stormwater systems in Eugene and Portland. We recognize that each individual's time is extremely valuable and have organized the workshop to maximize the exchange of critical experience and insights among participants. We intend the workshop to stimulate new and innovative thinking about the science and practice of developing, managing and sustaining stormwater infrastructure so as to optimize both water quality and flows, and social and ecological co-benefits. We will use workshop findings to guide our development of a substantial grant application to study Pacific Northwest stormwater systems, including Portland, Eugene, and one other large and one other mid-sized city. That proposed project and others we may pursue will be guided by the needs identified in the workshop so as to stimulate a long-term interface of stormwater science and practice. Our goal is to apply the best science to support the best stormwater practices.

About Our Current Project: Our current project, involving researchers from the University of Oregon and Portland State University, is using a novel, integrative approach to characterize and assess the interactions among the biophysical and sociocultural processes that influence the efficacy of green stormwater infrastructure in the Pacific Northwest (Fig. 1). We are simultaneously integrating and evaluating the complexities of green infrastructure policy, management, and ecological processes across subsystems and scales to understand the changes needed to fulfill desired functions. For example, if specific plants have unique microbes associated with them that influence the rate of degradation of petroleum compounds, then both plant selection and the design and management practices that determine which plants persist will directly impact the biological functions of the bioswale. This interdisciplinary work has strong potential to enhance urban resilience to climate change in the Pacific Northwest and to maximize the multifunctionality of green infrastructure in urban environments in relation to the equitable distribution of ecosystem services to urban residents.

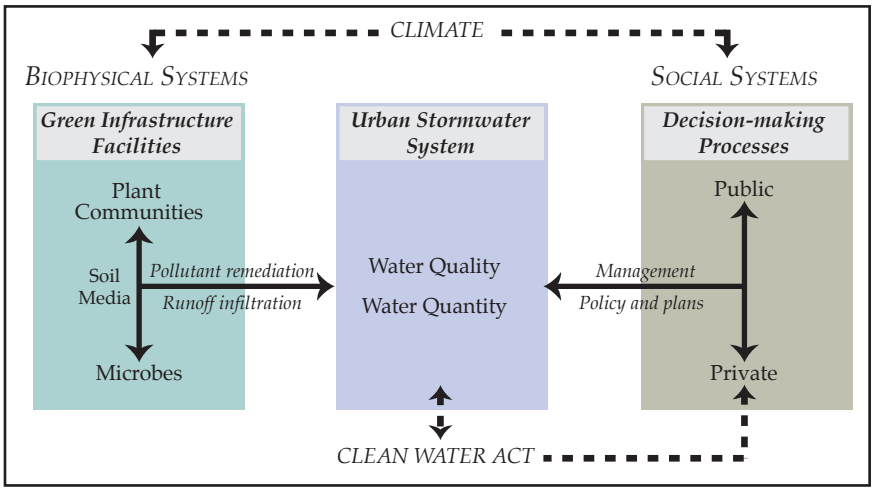

Fig. 1. Integrated socio-ecological system model of stormwater green infrastructure management and performance.

Detailed Schedule

8:00 – 8:50 coffee hour & light breakfast

9:00 – 9:15 Introduction and overview of workshop goals and concepts

9:15 – 9:35 Presentation of social components of pilot work

9:35 – 9:55 Presentation of biological components of pilot work

9:55 – 10:15 Break

10:15 – 11:00 Discussion/questions

11:00 – 12:00 Determine subgroups for afternoon discussions

12:00 – 1:00 Lunch

1:00 – 2:30 Subgroup discussions

2:30 – 2:45 Break

2:45 – 4:30 Short presentations from groups; discussion about integration and priorities

4:30 – 5:30 Social hour

6:30 – 9 Dinner at restaurant in Portland (tbd)