Key Issue #5: Increasing Urban Forest Health, Biodiversity and Resilience

Increasing urban forest health, biodiversity and resilience is a key need, as all thought leaders noted that stresses on urban forests will only worsen in the next decade. Climate change, including pests and invasive species threats, were cited frequently as both a primary challenge and opportunity for urban forests. Many interviewees detailed the multiple potential threats from climate change including changing weather patterns, increased storm severity, increased heat and drought, changes in plant distribution patterns and plant adaptability. They emphasized that additional science, professional collaboration, and planning to prepare for future decades need to start today. To ensure that urban forests will continue to serve their core functions, thought leaders suggested that another strong need is to enhance urban forest tree biodiversity–especially with regionally appropriate native plants.

IDEAS FOR ACTION - Gaps, Needs, Opportunities

- Develop metrics for urban tree canopies to catalyze collective impact.[1]
- Develop an "Integrated Command Center" approach for urban ecosystem management, to manage, adapt and protect the UCF to rebuild local economies.
    - Use USFS Fire Scope as a model: it has one standard, one language.
    - Support use of arborists as first responders after storms.
    - Foster or initiate federal inter-agency collaboration for managing urban forests after natural disasters.
- Encourage more use of locally grown, regionally-adapted native species by private homeowners, and public urban forests.
    - Work with nurseries to increase the supply of native species appropriate for urban spaces. For example, large shady trees such as hickory are an ideal urban tree species, but are not frequently available because they are hard to start and slow to grow.
    - Work with nurseries to increase the quality of cloned trees that are more disease and pest resistant.
    - Replant urban forests with insect and pest-resistant trees.
    - Support adoption of ordinances that encourage or require use of appropriate native species. Native street trees are important to create stability and functional food webs for a diverse array of animals, insects, and birds.
    - Support data collection and tracking of canopy loss to invasive species, such as the Emerald Ash Borer.
- Assist communities in developing their own nurseries of native biodiverse trees.

[1] See this link for additional information on Collective Impact: http://www.vee.org/wp-content/uploads/2013/10/collective-impact-basics.pdf

    - This might be accomplished through partnerships with schools, cemeteries, botanic gardens and parks, using simple accessible technology such as hoop houses and bare-root planting. Tree Pittsburgh's program can be used as a model for this.
    - Work with Cooperative Extension to expand its programs to include urban forestry, and to assist in constructing nurseries and hoop houses.
- Build on existing partnerships the permaculture community has developed to build new or expanded UCF programs, especially for multi-functional urban and community forests.
- Reengage all sectors of communities to reforest cities as resilient, vibrant urban ecosystems.
- Support development of region-specific climate change plans, for both short and long-term. The potential consequences of climate change for urban forest health and resilience are significant, and can also vary significantly between regions.
- Plan for regional UCF management and planning; different regions have different urban forest needs for planning for water, soil health, species selection and management regimes and should be taken into account at the city, state and federal levels.
- Support research into urban forest tree species that are most resilient for a number of future climate change scenarios (e.g. drought, heat).
- Support community education to increase UCF accessibility and program implementation.
- Support education about and use of trees for effective stormwater management alternatives as well as wastewater treatment facilities.[2]
- Support education about the important of soil types for ensuring urban tree health.
- Promote the reduction of lawn area in America, which contributes to air, noise, and waterway pollution, and replacing these with trees. Plant half of America's lawns – 20 million acres – in well-planned naturalized areas, to create a "Homegrown National Park."
- Support use of urban forests for increasing community food resilience, by designing and creating urban orchards, edible forests, permaculture and agroforestry in public and private urban settings.
- Create a ranking of all plant genera by region in terms of: 1. Ability to support food webs; 2. Carbon sequestration potential; 3. Pollination capacity; 4. Watershed

[2] Arcata, California, has an innovative wastewater treatment facility that has a wetland and community forest with education and recreation as core components.

management. This ranking is currently being done for food webs, and could be expanded to forests.[3]

[3] See Doug Tallamy's research for additional information.