COMMUNI-Tree
Transdisciplinary research to evaluate the social & environmental outcomes of a boundary-spanning tree-planting partnership

**Summary**

CommuniTree is a new, multi-organization, community urban forestry partnership that engages in tree planting in underserved, post-industrial Northwest Indiana communities. Coordinated by the U.S. Forest Service and modeled after Collective Impact, the partnership involves public (federal, state, and municipal, private, nonprofit, and university partners. CommuniTree coordinates grant- and privately-funded urban forestry in communities that would not otherwise be able to plant and care for trees. Urban trees provide benefits including stormwater management, energy conservation, air pollution reduction, human health, and even increased social capital. However, benefits may be under-represented in post-industrial communities where high vacancy rates depress municipal tax bases and thus threaten provision of municipal services such as tree planting. For Northwest Indiana, socio-economic issues are compounded by environmental challenges posed by the unique dune and swale ecosystem along Lake Michigan. This poster describes the design and preliminary results of a long-term applied, transdisciplinary research project to evaluate the socio-environmental outcomes of CommuniTree. The evolution of the structure and operations of CommuniTree is an experiment in an informal cross-sector tree-planting partnership. Results from interviews with stakeholders and from a survey of tree-planting volunteers, identify outcomes from, and benefits to involvement of organizations and individuals in CommuniTree. Partnerships like CommuniTree are relatively rare in urban forestry. CommuniTree is not a formal organization; it has no administrative budget and no permanent staff. Rather, CommuniTree is a collaborative, multi-organizational tree planting partnership based on the Collective Impact model (at right).

**What is CommuniTree?**

CommuniTree is a collaborative, multi-organizational tree planting partnership based on the Collective Impact model (at right).

- **Innovated by USFS’s Drew Hart in 2016**
  - “Backbone” organization: Student Conservation Association (SCA), through which grant funds flow

- **Nearly 2,000 trees planted by SCA crew, through volunteer tree planting events (below), or disbursed to municipalities and school or community groups**

**Research Questions**

This research will set up a long-term, transdisciplinary, social-ecological research project to evaluate how resources flow from stakeholders to the activities of CommuniTree to produce the desired, possible, and observed outcomes identified by stakeholders and community members (see conceptual model, above center).

1. Who are the formal stakeholders and other participants involved and what roles do they play?
   - What are the motivations for stakeholder and participant involvement?
   - What are the desired outcomes of stakeholders and how do the desired outcomes of each stakeholder align (or not) with each other?

2. What resources (funding, time, personnel, material, etc.) are stakeholders allocating to the CommuniTree effort and to what activities are these resources dedicated?
   - How does this allocation of resources impact capacity (activities before, during and after tree planting) and outcomes achieved?

3. What are the observed environmental and community outcomes of CommuniTree?
   - How do these compare to the desired outcomes of stakeholders?
   - How does the surrounding socio-environmental context influence CommuniTree stakeholders & participants and observed environmental and community outcomes?

**External Funding**

- **Resources (Funding, Time, Personnel)**
  - [U.S. Forest Service State & Private Forestry Northeastern Area](www.nepc.org)
  - [Student Conservation Association (SCA)](www.sca.org)
  - [IndyDNR Department of Natural Resources (IDNR)](www.in.gov/idnr)
  - [Northwest Indiana Urban Waters Partnership](www.commutree.org)
  - [North Carolina Public Service Commission (NCPCSC)](www ncpcsc.org)
  - [Dunes Learning Center](www.duneslearning.org)
  - [The Nature Conservancy](www.nature.org)

- **CommuniTree Program happening in an existing SOCIO-ENVIRONMENTAL CONTEXT**
  - [Environmental outcomes](www.lufa-depaul.org)
  - [Tree survival & growth benefits (community management most crucial)]
  - [Changes to vegetation and restoration areas]
  - [Other biophysical, ecological, or environmental outcomes defined by stakeholders]

**CommuniTree Capacity**

- **Tree activities**
  - Pre-planting planning, etc.
  - Tree planting (trees in ground & characteristics of these trees?)
  - Post-planting tree care & maintenance
  - Education & outreach activities
  - Volunteer/community participation

**Volunteer Survey**

- 32 respondents to date, across fall ‘17 + spring ‘18 events
- Typical volunteer is female, white, works full time, and was born in the 1990s (college student)
- 56% had previously planted a tree
- Environmental attitudes were strong (figure below left)
- Personal efficacy: Volunteers felt that they had more of an influence on local level compared to national or global level (figure below right)
- CommuniTree has struggled in community outreach and getting volunteers to show up to their events - 2 of 4 tree-planting events researchers were present at did not have any volunteers
- We will continue to survey volunteers at tree-planting events next fall

**Preliminary Results**

**Stakeholder Interviews**

- Stakeholders became involved due to personal interest of stakeholder contact
- Stakeholders involved in grant applications have more formal relationships with CommuniTree program than non-grantees

**Desired Outcomes of...**

- Nonprofits: specific to mission of organization - prioritize social / ecological outcomes based on mission
- Industry partners: wish to improve community relations
- Municipalities: wish to restore trees lost to EAB
- State agencies: increase ecosystem services

**SELECT LITERATURE**


**FUNDING & SUPPORT**

Dr. Jess Vogt*, Margaret Abood*, Rebecca Brokaw*, & Michael Rasmussen**

*Assistant Professor *Environmental Science & Studies student
*Presenting/corresponding author: jess.vogt@depaul.edu

**MANUSCRIPT** We are currently writing up the results of stakeholder feedback. Check out the project on the LUFA website for project updates. www.lufa-depaul.org/communitree

**MIXED METHODS: QUANTITATIVE & QUALITATIVE**

**Stakeholder Interviews** - student lead: Margaret Abood

- **Stakeholders** – group that provides/receives resources to/from CommuniTree program; list of organizations/individuals provided by Drew Hart (USFS)
  - Initial script designed by EYN 261 Mixed Methods Research class
  - Interviews with all stakeholders conducted during fall 2017; recorded & transcribed

- **Emergent coding** on themes of motivations, desired goals, and goals for evolution of CommuniTree (prelim. results at right)

**Volunteer Survey** - student lead: Becca Brokaw

- Distributed at 8 CommuniTree volunteer tree planting events from April to May of 2018 to participants over the age of 18

- **Topics of questions:** involvement with CommuniTree, environmental knowledge, environmental attitudes, personal efficacy and demographic information (prelim. results at right)

**Household Survey** - Questionnaire currently being developed by student Kaitlyn Pike; to be mailed to households near tree-planting locations in Oct 2018

**Resource Flow Mapping** - student lead: Michael Rasmussen; currently producing visual map of the transformation of grant dollars into CommuniTree capacity (see handout)

**Tree Outcomes** - GPS location of trees captured at planting; re-inventory of planted trees to be conducted in Fall 2018 to track survival and condition

**What are the formal stakeholders and other participants involved and what roles do they play?**

- a. What are the motivations for stakeholder and participant involvement?
- b. What are the desired outcomes of stakeholders and how do the desired outcomes of each stakeholder align (or not) with each other?

**What resources (funding, time, personnel, material, etc.) are stakeholders allocating to the CommuniTree effort and to what activities are these resources dedicated?**

- a. How does this allocation of resources impact capacity (activities before, during and after tree planting) and outcomes achieved?

**What are the observed environmental and community outcomes of CommuniTree?**

- a. How do these compare to the desired outcomes of stakeholders?
- b. How does the surrounding socio-environmental context influence CommuniTree stakeholders & participants and observed environmental and community outcomes?