RESEARCH in Progress

Forest Products Laboratory

Optimizing Value-Added Small Business Opportunities for Urban Wood Utilization

Log yard with urban trees.

Most common practices in the United States treat residual wood from removed urban trees and wood products from deconstructed buildings as waste disposal concerns, to be dealt with as simply as possible. A more holistic approach to managing urban wood resources—from seed to sawdust—could capture their value in a more extensive range of higher-value end products that support local economies and potentially reduce removal and disposal expenses for communities, homeowners, and industry. In addition, a "full-circle" approach to urban forestry affords the opportunity to connect people with the urban forest's entire natural life cycle and to expand their understanding of the benefits produced by responsible urban forest stewardship and wood recycling.

To establish full-circle urban forestry management, we must work cooperatively from arborist to consumer. The process of utilizing urban forest resources can be described as an "urban wood chain," with the links in the chain defined as the entities who own or manage the resources, those who process urban wood into a variety of finished products, and those who specify or otherwise dictate its use as end products. A cohesive supply chain is the only way to get the highest product from our urban wood resources, and increased demand for urban wood products is needed to drive the supply chain (Stai et al. 2017).

Background

Approximately 14.5 million tons of wood from urban areas fills America's landfills every year (McKeever and Skog 2003). Urban wood resources, from removed trees and deconstructed buildings, can be recycled and repurposed into useable goods. Repurposing urban trees after they are removed changes the way industry sees its supply chain (Nowak et al. 2019). People who manage urban forests and those that use wood in their projects are finding opportunities to connect and partner toward building new urban forest product markets, building stronger relationships between clients, consumers, and communities in the process. Recent and on-going urban wood utilization efforts in the United States are fragmented and disparate. Independent efforts must start over without the benefits of proven and shared technologies. Best practice systems to utilize urban wood to its highest value need to be developed and shared to improve efficiencies.

Objective

The objective of this project is to develop and demonstrate best practice standards for urban wood utilization that build on previous research and focus on areas requiring new or expanded research. This project is phase one of a multi-phase effort that will be developed in Wisconsin to be scaled nationwide and implemented in cities across the nation.

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Lumber sawn from urban trees.

Approach

Our approach will include (1) quantifying current incentives and barriers to urban wood utilization through surveys and interviews, (2) documenting factors and situations that make these products marketable, (3) investigating existing urban lumber grading and drying standards, and (4) identifying tracking systems (stump to value-added product) such as I-Tree, Lumber Tracker, and other individually developed systems.

Expected Outcomes

This research will determine incentives to encourage those who own and remove trees to have them utilized and assess what needs to be done to develop market demand for urban wood. We will develop (1) informational materials for municipalities to inform residents on reducing wood waste and promoting highest value, (2) local commodity promotion material, (3) a marketing tool for tree service companies based on "recycling" trees, and (4) guidelines to assist state urban wood groups to organize the sectors (municipalities, arborists, producers, and value-added) within their state into networks.

Timeline

This project will run from October 2019 to June 2021. By the end of 2020 we will develop a guide for potential markets by product/sizes, develop a template that addresses typical removal scenarios, document factors and situations that make these products marketable, determine the value of urban wood branding versus certification, and determine how best to promote urban wood and how to specify it for projects to design and building professionals. In 2021, we will compile information from the previous steps into a comprehensive draft report, finalize the report with the input from peer reviewers, and develop guidelines to assist state urban wood groups to organize the sectors within their state into networks.

Cooperators

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