

Handheld App and Online Database for Urban Wood Utilization from Tree Removals

Many databases show inventories of standing trees in urban settings. Most of these are used for daily arboricultural operations, long-term urban forestry planning, or monitoring the health of trees. Very little information is available on number of trees being removed on a daily, weekly, or yearly basis or where trees are being harvested. Data such as city, zip code, census block, or neighborhood are often not archived or analyzed. The goal of this project is to capture this removal data from municipal urban forest operations, private and commercial enterprises, and utility arborists working in the urban forest.

Capturing these data will give a broader picture of actual volume and value of trees being removed and sold or lost to least-use practices. Effective tracking of where a particular tree goes for its best use, or disposal, will provide a timely and accurate estimate of the true value of each tree throughout its lifecycle in any community actively recording the data.

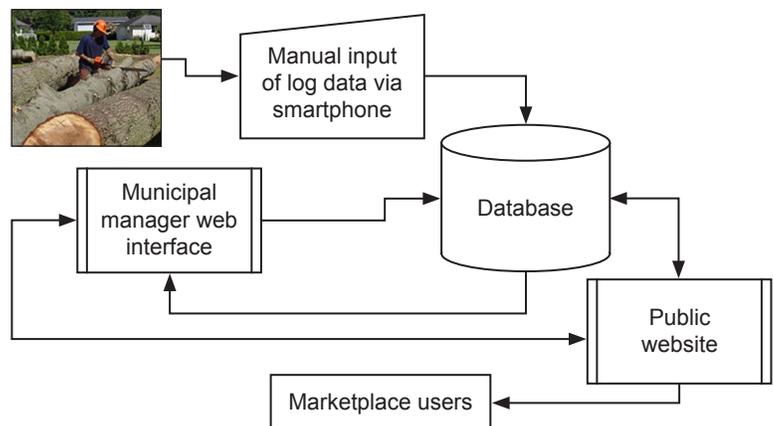
Background

A publicly accessible computerized database on salvageable log inventories will provide end-user consumers a live, accurate, and useful mechanism for securing wood for their operations. Sawyers, pallet makers, artisans, mulch manufacturers, and firewood distributors are just a few of the potential consumers of these wood products. Various conceptual purchase and bidding marketplace websites will be developed and tested. For municipalities the urban wood utilization will provide them monetary value based on the amount,

quality and location of the trees that are removed in regular maintenance operations, and enable them to add these logs to existing supply chains and developing markets, and spur re-evaluation of where, and how, they are currently processing urban logs.

Objective

Ultimately this initiative aims at catalyzing a community paradigm shift in the urban wood removal and utilization stream. The application can be used for cost-benefit analysis of the entire wood removal stream in an easily accessible format, and the dataset will become more valuable as applications become increasingly utilized in urban forestry, urban ecology, urban planning, and city engineering. Potential income estimates for each of these disciplines will be established and value-added processing of logs to lumber or secondary wood products will be accomplished through the tools and processes outlined in this project.



Data flow for handheld app and online marketplace for urban wood-fall.

Approach

A designated crew leader within any participating organization accesses the App with a hand-held device at the end of each removal and enters date, zip code, cross street, hundred block, log species, diameter of log at small end, and number of logs from that tree. Tracking numbers are assigned to the specific removal crew and organization submitting the data from the drop down menus on the App. Data flow to a main server starts the process of building local, regional, and national databases of tree removals and values.

The crew is incentivized to complete accurate data sets each day (such as, through reminder prompts, bonuses, equipment discount coupons, comp time, citizen scientist). Other incentive ideas could ultimately include an advertising sidebar on associated webpages that would link the user to key industry-related suppliers and industry-specific service providers that may be willing to discount key equipment or services and items to project participants, including local vendors that service those entering data—a “Buy Local” approach.

Expected Outcomes

The outcome of this project will be an efficient means of gathering bulk log removal data to determine best use of trees being removed from the urban forest. Using field crews to accomplish this task eliminates the need for hiring an administrative staff for data entry. The App will also begin to link the developing urban wood marketplace with a readily available online inventory of available logs locally, regionally, and nationally.

Timeline

This project will commence in January 2017, with the enlistment of three pilot areas in which to test tools, programming, and local interest. Initial work

will occur with municipal partners in the Northeast, Midwest and Mid-Atlantic regions, and may expand into trials with private and commercial vendors in these localities. Hand held data loggers and associated training and user manuals will be ready for pilot testing by April 2017. Development of the online database will occur simultaneously and will serve as the data repository for all information obtained in the test communities. A public online website will be ready for beta testing by select project cooperators by June 2017. Initial pilot testing, revisions, and delivery of final product tools, resources, and online web interfaces will be completed by early September 2017.

Project Cooperators

USDA Forest Service, Northern Research Station
Stephenson Tree Care, Inc.

USDA Forest Service, Forest Products Laboratory

Contact Information

John Stephenson
Stephenson Tree Care, Inc.
Madison, Wisconsin
(608) 576-8897; jcut@charter.net

Keith H. Nislow
USDA Forest Service, Northern Research Station
Amherst, Massachusetts
(413) 545-1765; knislow@fs.fed.us

David V. Bloniarz
USDA Forest Service, Northern Research Station
Amherst, Massachusetts
(413) 537-3748; dbloniarz@fs.fed.us

Karen L. Martinson
USDA Forest Service, Forest Products Laboratory
Madison, Wisconsin
(608) 231-9450; klmartinson@fs.fed.us