

## Urban Tree Removal and Processing

### Project Demonstrates Using Mechanized Equipment to Process Urban Trees

#### The Challenge

Urban areas can contain a large volume of wood from trees that have been damaged by insects, diseases, and storms. These trees need to be removed safely and efficiently. Urban foresters are also seeking ways to reduce the costs of removing urban wood while simultaneously maximizing the use of this resource. A project to remove urban wood posed this question: could a rubber-tired tree processor function in an urban environment to process 10 to 20 times as many trees in a day as a three-man crew cutting trees by hand?

#### The Solution

The Northeastern Area State and Private Forestry Wood Education and Resource Center awarded a grant that provided an opportunity for the Sustainable Resources Institute, Inc., to work with a variety of partners to demonstrate and analyze how effective and cost efficient it would be to use mechanized equipment to remove and process urban trees. The city of Oak Creek, WI, agreed to be part of the project because the emerald ash borer had weakened or killed a substantial number of the city's trees.

The demonstration involved using a tree processor that could remove trees in an urban environment and cut the wood into different lengths. In addition to looking at how efficient this process would be, project personnel also wanted to find out if enough wood could be harvested as saw logs, pulpwood, and chips to make the effort economically worthwhile.

The result? In 5 days, the mechanized equipment cut, removed, and processed 516 trees. Sixty-five of those trees



*A mechanical harvester cuts the limbs off an ash tree.*

were less than 5 inches in diameter. The project yielded 2,600 board feet of saw logs, 40 cords of pulpwood, and 42 trees that were processed into firewood. The harvesting effort also produced an estimated 150 tons of biomass.

The project proved that it was economical to use mechanized logging equipment to remove urban trees. One key requirement for the equipment being used is that it has rubber tires so that it can be driven from place to place.

#### Resulting Benefits

- Provides a quick and efficient way to remove a large number of trees affected by insects, disease, or storms.
- Reduces time and labor costs.
- Creates an opportunity for the logging industry to help remove urban trees.
- Expands the potential to produce and market value-added products made from urban wood waste.

#### Sharing Success

- Presented Mechanized Processing/Utilization of Urban Trees, a Webinar that can be viewed at <https://umconnect.umn.edu/p78694155/?launcher=false&fcsContent=true&pbMode=normal>
- Filmed a video of mechanized harvesting equipment being used in an urban setting:

<http://dnrmedia.wi.gov/main/viewer/?peid=504a7d15adae42a28a17f7f961440054>

*“Development of technologies, like portable saw mills, and increasing demand for specialty woods are making it more common for cities and local governments to market urban wood that is scheduled for removals as a timber product, rather than disposing [of it] as a wood waste or processing for mulch.”*

*—Urban Forests of Tennessee, 2009  
(GTR SRS-149)*

Federal ID Number: 2010-DG-11420004-108



September 2012

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Forest Service  
Northeastern Area  
State and Private Forestry  
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