Wood Utilization Options for Urban Trees Infested by Invasive Species

Upper Midwest Invasive Species Conference 2016

LaCrosse, Wisconsin

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Don Peterson

- Renewable Resource Solutions, USDA Forest Service Forest Products Laboratory Contractor
  - Mechanized Urban Harvesting
  - Workforce Development
  - Forest Industry Technical Assistance
  - National Forest Stewardship Assistance

Acknowledgments

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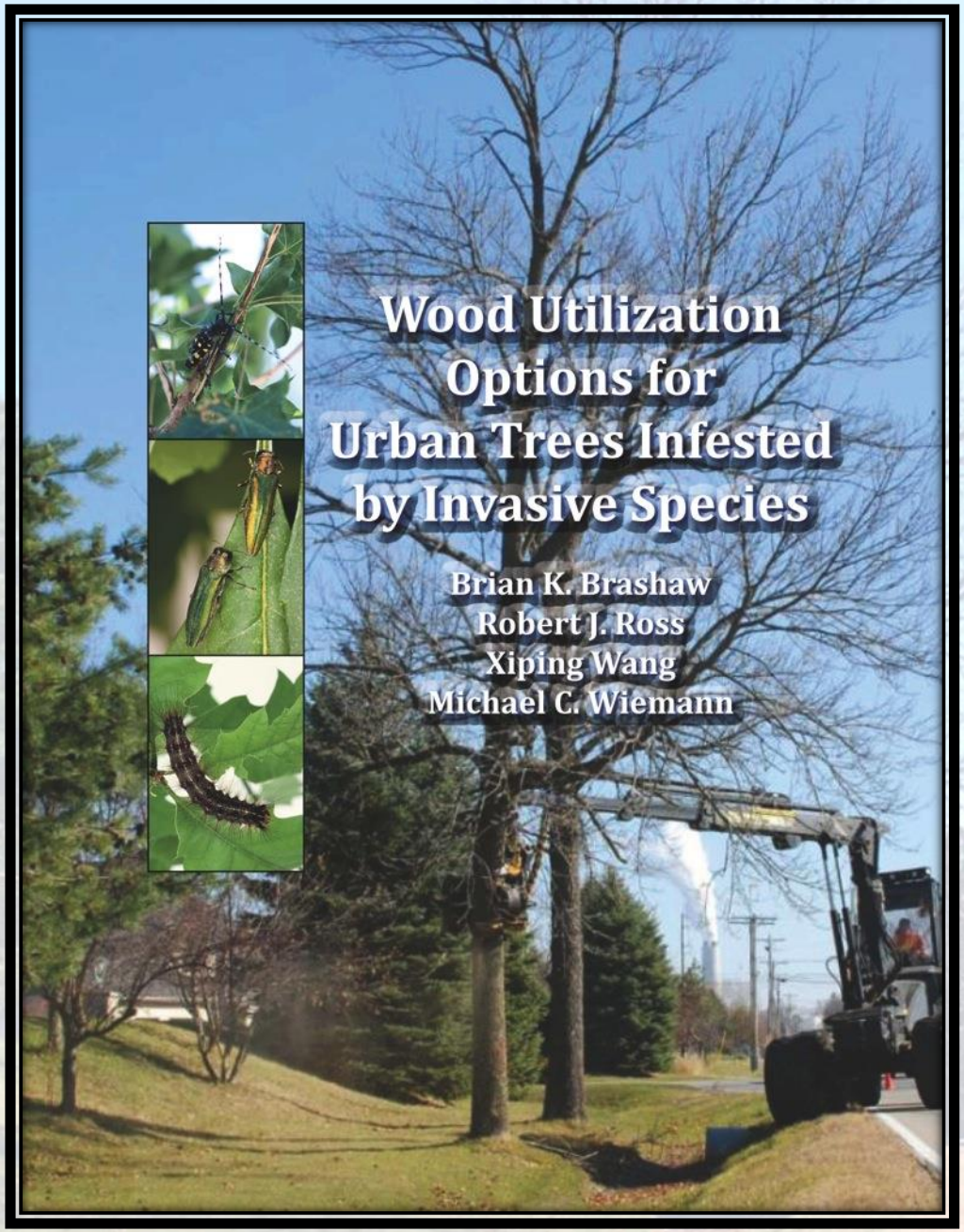
- The University of Minnesota and USDA are equal opportunity employers.



"Wood Utilization Options for Urban Trees Infested by Invasive Species" is a reference for land managers, arborists, utilization specialists, and other natural resources professionals. It provides comprehensive information on wood technology, markets, and technical information for hardwoods affected by invasive species.

Table of Contents

- **Part One** – Overview of Invasive Species and Utilization Options for Hardwoods (B. Brashaw)
- **Part Two** - Basic Wood Properties of Hardwood Affected by Invasive Species (R. Ross and M. Weimann)
- **Part Three** – Market and Utilization Options for Ash Logs, Lumber and Other Products (B. Brashaw and J. Simons)
- **Part Four** - Heat Treatment of Wood for Invasive Forest Pests (X. Wang)

Part One - Overview

- Invasive Species are “considered non-native to the ecosystem and whose introduction causes or is likely to cause economic or environmental harm or harm to human health” ~ National Invasive Species Plan 2008
  - Emerald ash borer (EAB)
  - Asian longhorned beetle (ALB)
  - Gypsy moth
  - Thousand cankers disease

Emerald Ash Borer

Photo courtesy of Stephan Ausmus, USDA ARS

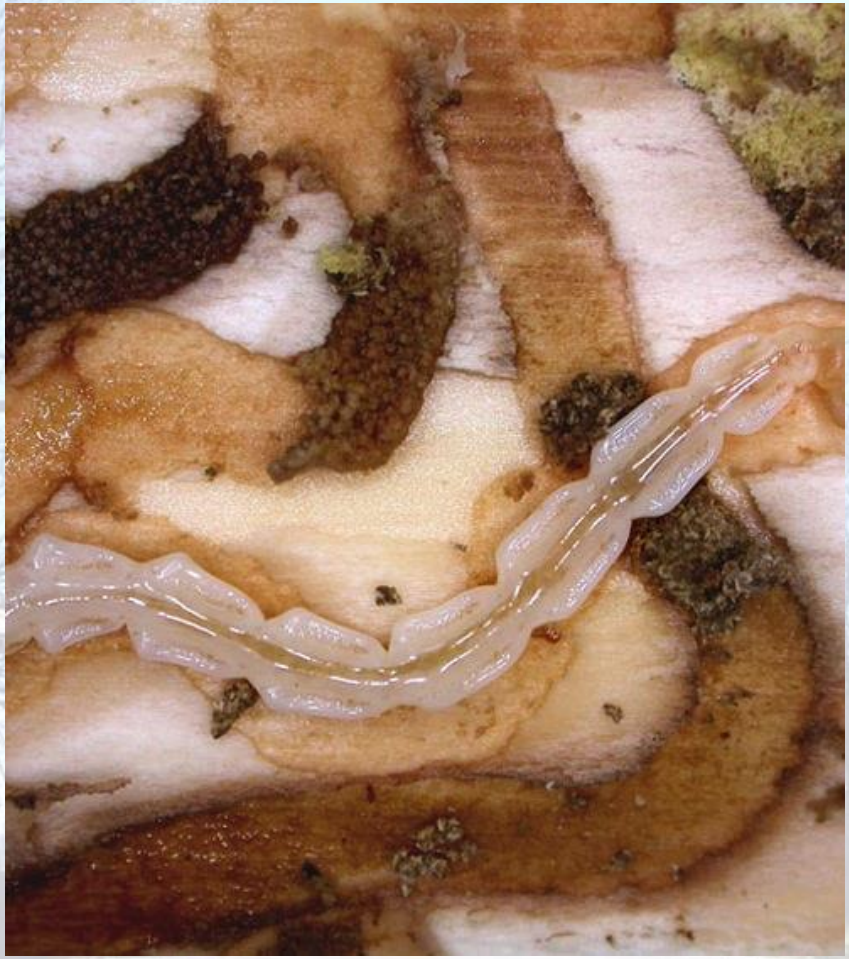
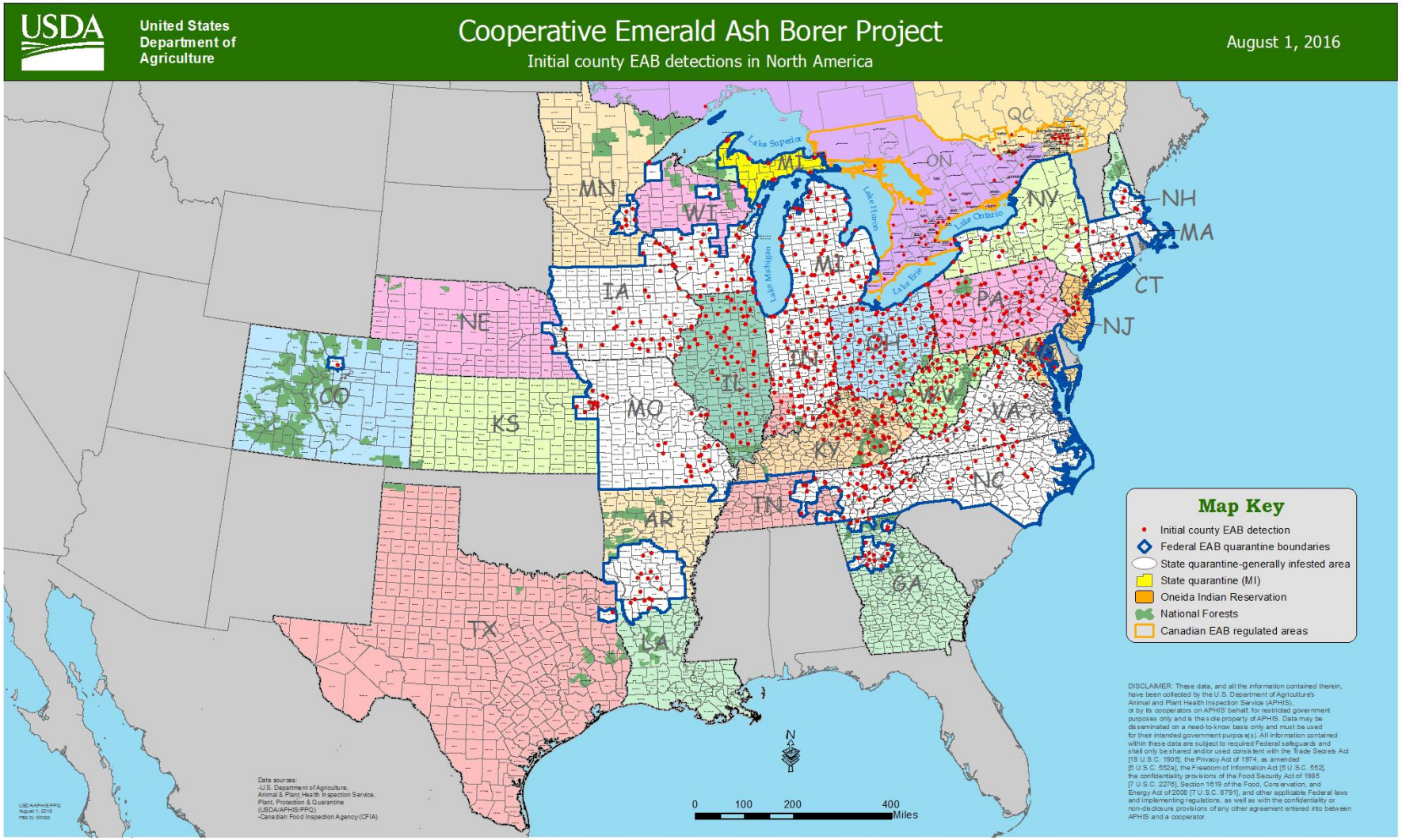


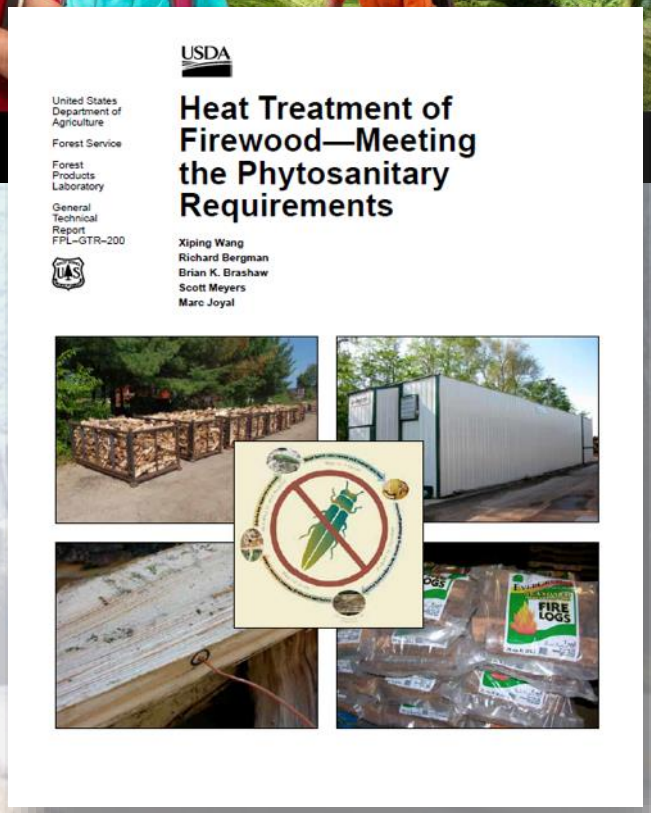
Photo courtesy of David Cappaert, www.bugwood.com

EAB Quarantine Map (8/1/2016)



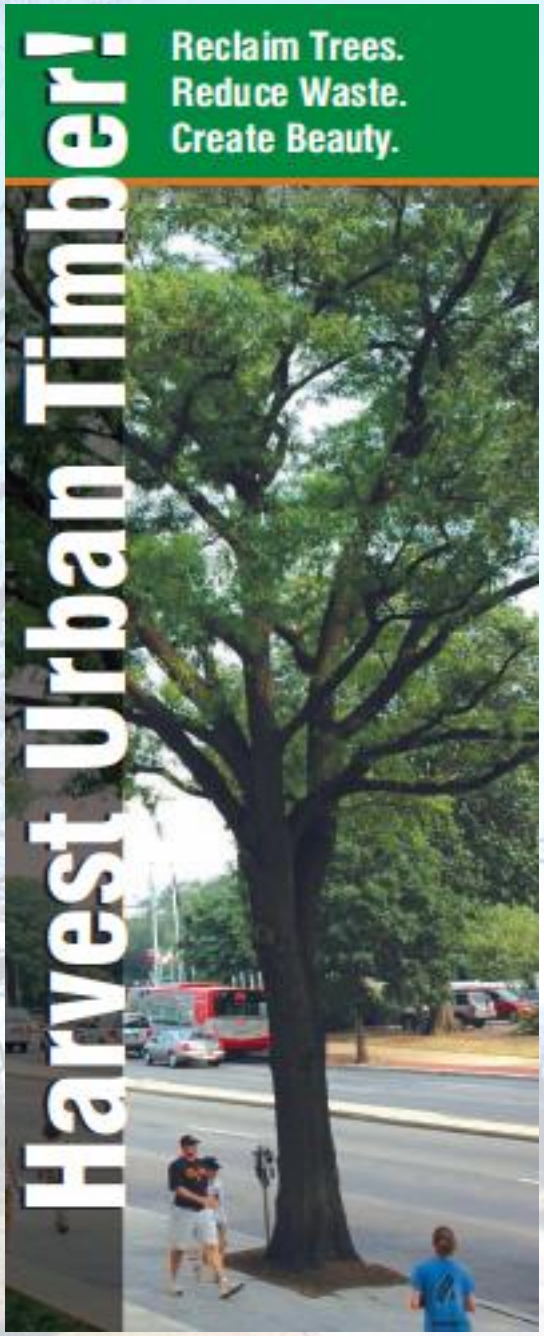
Federal Initiatives

- USDA Animal and Plant Health Inspection Service
  - Detection, control, eradication and education
- USDA Forest Service
  - Research into prevention, biology, control, management, utilization and market research and development



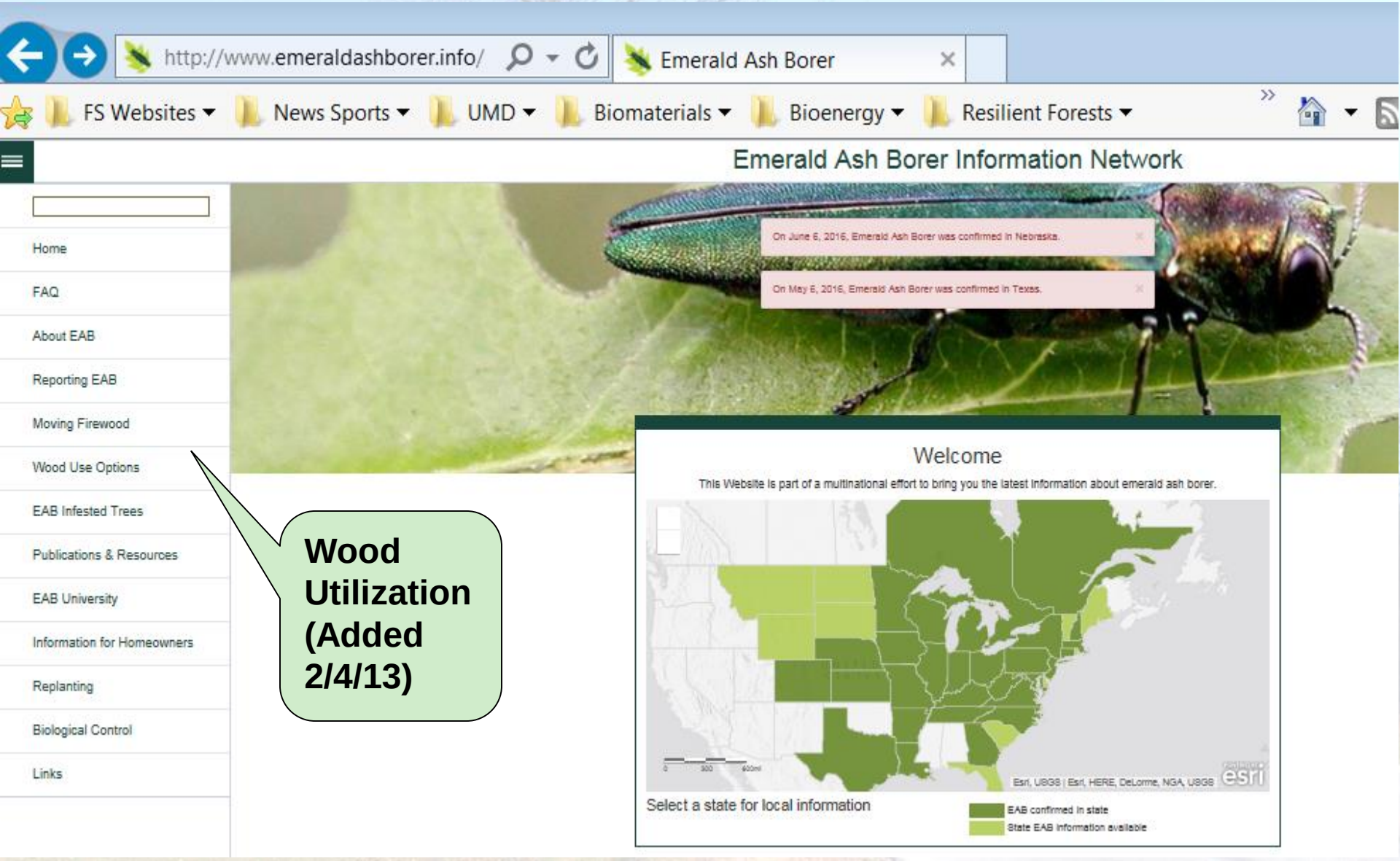
State Programs

- Southeast Michigan Resource Conservation and Development District
  - Ash Utilization Options Project
- Illinois EAB Wood Utilization Team
  - Focused on developing an understanding of infestation and wood utilization for arborists, sawyers, woodworkers, intermediaries and end-users



Photos courtesy of www.illinoisurbanwood.org

www.emeraldashborer.info



Part Two – Basic Wood Properties of Hardwoods Affected by Invasive Species

Objective

- To assist users by providing a starting point for gathering important technical information for wood from trees infested by invasive species
- To provide basic information on important characteristics

Part Three – Market and Utilization Options for Ash Logs, Lumber and Other Products


RECLAIMING WOOD
FROM YOUR
NEIGHBORHOODS
ASH 4"X 6" PHOTO FRAME

Trees

Traverwood Branch Library – Courtesy Ann Arbor District Library

Lumber

TrueNorth Woods

SE Michigan RC&D Council

Furniture

- Residential and commercial product lines
- Most furniture is clear cuttings, solid wood
- Increasing amounts of veneered surfaces
- Custom and unique designs

Cabinetry

- Both solid and veneered products
- Visual appearance resembles oak
- Clear and rustic grades often used
- Large and small manufacturers
- Cabinets now used throughout home and garage

Douglas Remodeling

Millwork

- Produced mostly from solid lumber, increasing amounts of veneer
- Moldings, paneling, doors, mantles

Weaber, Inc. and the American Hardwood Information Center

Flooring

- Solid strip, plank or engineered
- 2 ¼ to 8+ inches wide
- 9/16 to ¾ inch thick
- Clear and character grades
- Unfinished and prefinished

Armstrong Hardwood Flooring and the American Hardwood Information Center

Marketing Urban Wood in Michigan

Southeast Michigan
Resource Conservation
& Development Council

Jessica Simons

Wood Utilization Options for Urban Trees

The Urban Wood Marketplace

Southeast Michigan's Resource for Reclaimed Wood

Unique. Sustainable. Local. Quality. Perfect for your next project!

Every neighborhood is different. That's what makes the Urban Wood Marketplace special – Because Urban Wood is reclaimed from tree removals in local communities, our products are as one-of-a-kind as the trees on your own street.

ReUse Center
Urbanwood Marketplace
Sales Growth

2008 - $18K
2009 - $29K
2010 - $37K
2011 - $67K
2012 - $124K

-Products vary by mill
-Many cater to hobby woodworkers
-As many as 30 different species available


$900
Catalpa slab 6317
$900

Urbanwood.org

Southeast Michigan's
Reclaimed Wood Marketplace

STORE
PARTNERS
THE WOOD

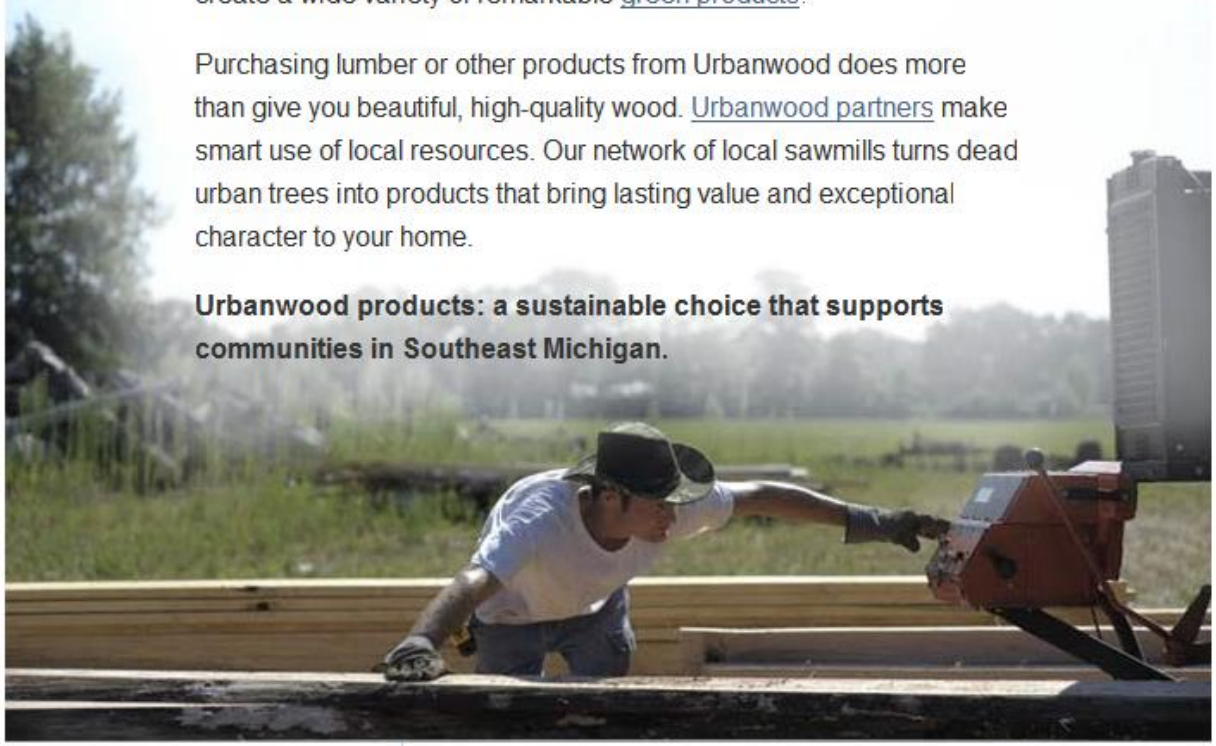
HOME | NEWS | FAQ | STORIES | RESOURCES | ABOUT US | CONTACT

Don't chip that tree. Reclaim it!

Did you know that Southeast Michigan's dead urban trees could produce almost five million board feet of lumber each year? Unfortunately, trees removed from our cities are usually fated for the chipper. Instead, by saving and recycling the best logs, our partners create a wide variety of remarkable green products.

Purchasing lumber or other products from Urbanwood does more than give you beautiful, high-quality wood. Urbanwood partners make smart use of local resources. Our network of local sawmills turns dead urban trees into products that bring lasting value and exceptional character to your home.

Urbanwood products: a sustainable choice that supports communities in Southeast Michigan.



Two Ways to Shop

View Online

If you see something you like, just contact the mill listed for the product.

MORE PRODUCTS

View in Person

Visit Recycle Ann Arbor's ReUse Center to see the latest products in stock. We're located at 2420 South Industrial Hwy. in Ann Arbor, Mich. See map.

Kenosha County Tree Removal Project

Mechanized Cut-to-Length System

- Rubber tired harvester
- Rubber tired forwarder

Traditional Chainsaw Removal

- Ideal for smaller number of trees
- Utilization is typically not as cost-effective with smaller volumes
- Need training to manufacture logs correctly

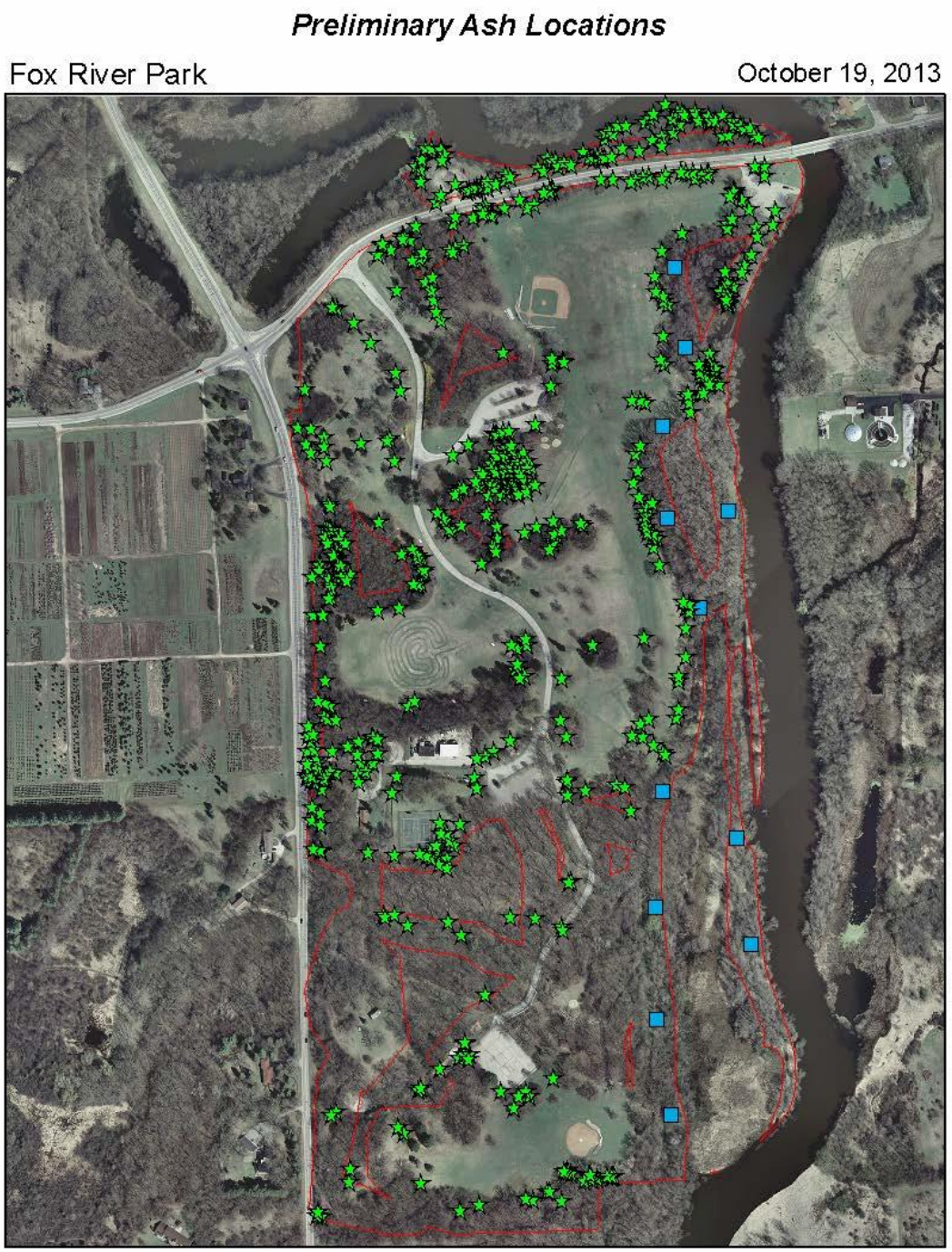
Advantages of Rubber Tired Mechanized Logging Equipment

- Can operate on streets
- Can reach out up to 30 feet
- Can process a felled tree
- Top down felling
- Operator is trained in cutting and sorting products
- Safer than doing the same job with a chainsaw
- High visibility
- Removal and processing is fast and efficient

Harvesting Operations

- Processor operator needed to be isolated with minimal contact for optimum operation.
- Forwarder operator needs safe travel routes to landing areas.


Brighton Dale Park & Golf Course
Petrifying Springs Park & Golf Course
Bike Trail
History Center
Old Settlers Park
Kemper Center
KD Park
Fox River Park
Silver Lake Park
Bristol Woods Park
Bike Trail
BRIGHTON
PARIS
SOMERS
KENOSHA
WHEATLAND
PADDOCK LAKE
SILVER LAKE
SALEM
BRISTOL
RANDALL
TWIN LAKES
PLEASANT PRAIRIE
Bong State Rec Area
New Munster Wildlife Area



Fox River Park

Preliminary Ash Locations

BDL Golf Course

October 19, 2013

Brighton Dale Park & Golf Course

Petrifying Springs Park & Golf Course


Valmet
415

ASH TREE REMOVAL & REFORESTATION

WHAT IS EMERALD ASH BORER?

Emerald Ash Borer (*Agrilus planipennis*) is an invasive, wood boring beetle. It kills ash trees (*Fraxinus*) by eating the tissues under the bark. This metallic green beetle is native to East Asia. It was brought to the United States accidentally, in the wood of shipping crates from China.

EAB is not a threat to human health but it kills North American native ash trees of any size, any age, healthy or unhealthy. The larva (the immature stage of EAB) spends its life inside ash trees, feeding on the inner bark where we cannot see it. This feeding disrupts the trees' ability to move water and nutrients back and forth from the roots to the rest of the tree. The tree starves and eventually dies. A tree that has been attacked by EAB can die within two to four years. It is estimated that more than 50 million ash trees are dead or dying in the Midwest because of this insect.

KENOSHA COUNTY PARKS & GOLF COURSES

EAB was first confirmed in Kenosha County in 2009. Kenosha County conducted an inventory of ash trees in the county parks and golf courses in 2012 to determine how many and to what extent the trees had been impacted. The decision was made to remove and replace the ash trees based on their poor condition.

The removal of the ash trees will change the appearance of the parks and golf courses. Kenosha County plans to remove them during the winter, so that the project does not interfere with park visitors and golfers. The trees being removed will be in lawn areas, fairways on golf courses, and 60 feet into any woods along lawn areas and along trails in order to keep park visitors and property safe from falling limbs.

A diverse mix of tree species are being planted at a rate of about one for every three to five removed. This diversity is to minimize the impact to the forest by any future invaders. Many trees have been planted in the parks over the last three years in preparation for this removal project. This will be an ongoing process and may last as long as three years.

This project to remove the diseased and dying ash trees is being done in the interest of public safety. Please bear with us through the process of removal and reforestation.

FOX RIVER PARK

FOX RIVER PARK

As shown on the map, 620 trees will be removed from Fox River County Park.

66 trees will be planted, including: Maple,Kentucky Coffeetree, Locust, Hackberry, Elm, Spruce, Ginkgo, Oak, and Fir trees.

For more information, please contact Kenosha County Parks at 262-857-1869.

Harvester Operating along the "Green"

Harvester About to Process Tree

Area Post-removal

Pulpwood to be Shipped to Mill by Rail

Parking Log Sort Yard – Pulpwood, Saw Bolts, & Sawlogs

EAB Ash Sawlogs from County Park and Golf Course

Sawlogs

Product Piles

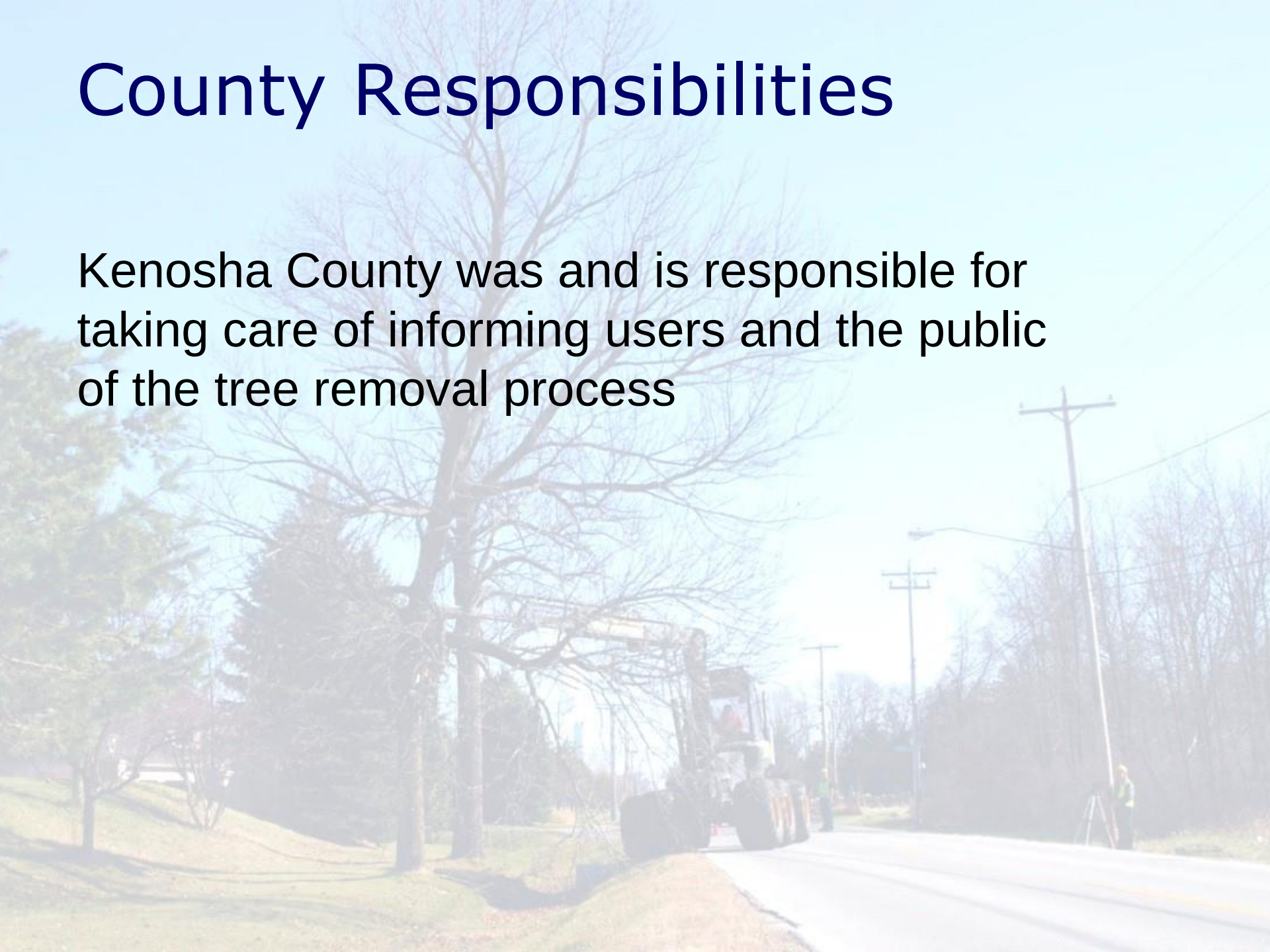
Pre-positioned Trailer

Kenosha County Tree Removal Project

- Renewable Resource Solutions
  - Setting up the removal plan
  - Bid process
  - Harvesting process
  - Address concerns

County Responsibilities

Kenosha County was and is responsible for taking care of informing users and the public of the tree removal process



Contracted Responsibilities

- Renewable Resource Solutions will make every effort to market as many of the products as possible from the harvesting
- All of the tree products/parts that can't be marketed will be the responsibility of Kenosha County

Renewable Resource Solutions will…

Develop harvest plans, including Maps showing:

- Trees to be removed
- Access points
- Landing areas

Harvest Plans Con't.

Trees to be removed

- Do they need to be painted?
- What needs to be done & how to designate:
  - Removal of entire tree
  - Removal of bole wood and leave tops
  - Removal of bole wood and chip tops at stump
  - Cut and leave entire tree

Golf Courses - When can trees be removed?

- Identify times of year tree removal can be done
- Can the logger travel on cart paths?
- Where are the irrigation lines?

Landings

- Where can we stack logs and tops?
- Any restrictions on timing, etc.?
- Is there a way to secure the location to prevent firewood theft?
- Noise issues, timing issues, too early/late

Contracts

- What time of year to harvest?
- Bid out separately (three) or bid as one project?
- How long (1 or 2 years)?
- Are there high need areas that should be treated asap?

MAKING MECHANIZED LOGGING WORK IN AN URBAN SETTING

Municipality Needs

- Safe tree removal at the lowest possible cost

Logger Needs

- Clear identification of what needs to be cut
- Product specifications
- Product landing area(s)
- Removal specifications
- Safety
- Equipment securement

Problem

- Municipalities don’t know mechanized logging or wood products
- Loggers don’t know the urban setting or product markets
- Resources are wasted trying to match up

Solution

- Organizer who knows timber sales & product markets
- Pre-cutting logistics set-up
- Works with logger throughout sale

Questions?

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Download “Wood Utilization Options for Urban Trees Infested by Invasive Species”: **www.na.fs.fed.us/werc**

Learn more about another urban harvesting demonstration: **www.sustainableinc.org/projects**