

WOOD RECYCLERS RESPOND TO BEETLE INFESTATION

About 15 million of Michigan's 700 million ash trees have died due to beetle damage, and the infested forests have been found in parts of Indiana, Ohio and Ontario. Wood processors have been converting trees into chips and lumber.

Dan Emerson

THE invasion of the shiny green beetle called the emerald ash borer has been an expensive plague for Michigan and several other Midwestern states, as well as southern Ontario. However, wood recycling entrepreneurs both large and small have been making the best of a bad situation by turning the salvageable ash wood into a variety of products and commodities.

The emerald ash borer (EAB), which first was identified in Michigan in 2002, is believed to have entered Detroit by ship from southeast Asia. The EAB has been responsible for the death of approximately 15 million of Michigan's 700 million ash trees, and infested forests in parts of Indiana, Ohio and Ontario. The Michigan Department of Agriculture has established a 20-county quarantine area in southeast Michigan. Problem areas with infested, infected trees have been found in another 19 other counties in the state. The quarantine was recently revised to include the prohibition of nonconiferous firewood from moving out of Michigan's Lower Peninsula. *BioCycle* first covered this situation in April 2003 (see "Battle of the Emerald Ash Borer" and "Meet The Beetles").

To prevent further spread of the insect in areas where it has been identified, crews have been cutting healthy ash trees within a half-mile radius of infested trees, which are then removed, chipped and burned. The eradication plan also includes a quarantine

on moving firewood and ash nursery stock from infested areas. Violators are currently subject to a \$100 fine, however, there is legislation pending to increase those fines and penalties; the fine in Ohio is up to \$4,000.

The Michigan Department of Agriculture continues to survey the state for emerald ash borer populations by visiting campgrounds, sawmills, and setting "detection trees" that may attract the beetles. So far, the department has received \$36.5 million from the U.S. Department of Agriculture's national EAB budget of \$64 million for eradication efforts, the first part of a planned 13-year program expected to cost an estimated \$368 million.

GRINDING CONTRACT

In the fall of 2003, the state of Michigan awarded a \$20 million contract to grind ash trees to Asplundh Tree Expert Co., a Philadelphia-based tree trimming company, and to LaMont Brothers Tree Service of Waterford, Michigan. Seven marshalling yards were designated to receive all kinds of ash, including logs and chips. The program also provides funding for "value-added" projects that make saleable products out of the waste wood. "All of the yards are participating in value-added activities in one form or another — some have portable sawmills right on site where they mill wood for railroad ties or pallets," says Angela Riess, EAB Planning Chief for the Michigan Department of Agriculture.

Asplundh grinds ash wood at six of the eight designated sites and is also involved in fighting the ash borer in Ohio and Indiana.



The emerald ash borer larvae (above) live in the cambial layer of the ash tree, creating tunnels in the trees that eventually block the flow of water and nutrients. Boring damage is shown in top photo.

As of June, it had processed about 330,000 tons of ash wood of which 50,000 tons were in Michigan, according to Don Mulhern, a company superintendent. Asplundh uses two Morbark 7600 horizontal grinders and a Vermeer 400H tub grinder. In the early months of the job, in 2003, Asplundh used three, 650-horsepower, Bandit 4600 grinders. (In San Diego County, Calif., where western pine beetle-infested trees are being removed, Asplundh uses a Morbark 1300 tub grinder.)

To mill infested wood, the Michigan Department of Agriculture stipulates that the bark and another 1/28-inch slice of the layer just under the bark are removed, in accordance with state agriculture rules. The cambial layer is where the EAB's larvae live, creating tunnels in the trees that eventually block the flow of water and nutrients. The waste wood diversion program that began with marshalling yards is "continually expanding," Riess says. "We still burn much of what comes in, if there is no market because of the size of the wood. A big hurdle we face in utilizing these logs is that they come from an urban environment — they're full of metal, knots, and don't typically arrive in a nice 8-foot length. The wood that is ground does go to a cogeneration facility where it is burned for electricity, so we still derive value from the material."

The state has the long-term objective of establishing a sustainable, wood-utilization and waste recovery operation in southeastern Michigan, according to Riess. "Even after the emerald ash borer has come and gone, there will be a lot of tree material to be dealt with. We're hoping the activities we support now will live beyond the (ash borer) program in Michigan."

Approximately five to 10 percent of the wood processed at the Michigan ash borer sites is other types of wood, Asplundh estimates. "Because the whole spirit of the program is that we want to destroy the bug, it is almost necessary to take in some mixed loads, for fear that these loads might be turned into firewood and go to different (noninfested) parts of the state." Asplundh's crews keep a close watch on the approximately 200 contractors who are dumping ash wood at the sites. "The state wants to discourage small landscapers from dumping at unauthorized sites; they want to keep the infested wood within the quarantined area," Mulhern explains.

The chips are delivered to the Genesee power plant in Flint by Mid-Michigan Recycling, Inc. Asplundh also sells ash logs to Emerald Mills. It is trying to develop markets for mulch and chips as well. "We want to market them all over the country, creating a source of revenue that will sustain us after the government contract is over," says Mulhern. Asplundh also has found some small outlets in the Detroit metro area — small contractors who pick up logs and mill them under the state specs. The company's three-year contract with the state runs un-

Rising lumber prices and an increased demand for other hardwoods like cherry and oak are heightening demand for ash.



The beetle was first identified in Michigan in 2002. To prevent further spread of the insect, crews have been cutting healthy ash trees within a half-mile of infested ones.



til October, 2006, with the option for two extensions of one-year each.

From January to May, 2004, Asplundh also was involved in removing and grinding about 80,000 infected ash trees in southern Ontario. Canadian officials were surveying the area to find out if more trees will need to be removed.

MILLING AND MARKETING

The emerald ash borer infestation has spawned some interesting business opportunities. For example, Chris Last, a forestry employee of the city of Royal Oak, Michigan, started a company to turn felled trees into lumber and other products. To date, the company, Last Chance Logs to Lumber, has cut more than a half-million board feet of wood, according to company owner Last.

He first approached the Michigan Department of Natural Resources (DNR) in mid-2002 to encourage utilization of waste wood from the state's urban forests. After the state launched its EAB abatement program, Last received a \$50,000 grant to buy a sawmill from the Southeast Michigan Resource Conservation and Development Council (RC&D).

The sawmill, a Baker 3638D, is set up on the company's two-acre lot in Howell, Michigan.

To get his company off the ground, Last demonstrated the ash wood-milling process to officials from six Detroit metro area communities that have infected ash trees and might want to reuse them as wood for projects. The communities with representatives at the demonstration included Farmington Hills, Oak Park, Plymouth Township, Royal Oak, Ferndale and Madison Heights. The pilot program used 400 ash trees in Oak Park's Shepherd Park. Some of the lumber from the trees was used to make a split-rail fence and children's play-scape for the park.

The company provides direct services to local municipalities and landowners and has provided milling services to eight municipalities to date. The service allows for a creative, local solution to multiple city problems, Last says. "A city can use its own wood for city projects, reduce disposal costs, reduce lumber costs, and show conscientious use of taxpayer funds." Using its portable mill, the sawing operation can be taken to any removal site in southeast Michigan to do custom processing. For its efforts, the company has received the Michigan White Pine Award for Environmental Excellence.

"At the time we started, the big pitch was railroad ties, because it's such a solid market," Last reports. But because of the high quality of ash wood, "there's a myriad of different markets — from home woodworkers to cabinetmakers, every possible use for wood." Last has found lumber companies to be a more promising market, selling them all three grades of lumber — FAS, Select and Common. "We're not only dealing with

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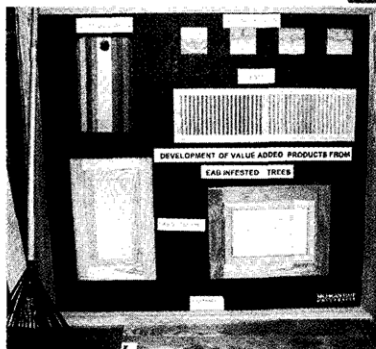
large corporations,” Last notes. “The Michigan Woodworking Guild has also bought quantities of the milled ash.”

In an effort to turn the part-time operation into a full-time business, Last applied for a Small Business Administration loan. He has been researching potential markets for the wood, with “a lot of phone calls” and help from forest products specialist Anthony Witherpoon, of the state DNR’s Urban and Community Forestry Division.

Another major user of wood from infected trees is Emerald Mills Inc. EMI, a division of Hicksville, Ohio’s Crook Miller Company, opened its mill in Flat Rock, Michigan in response to the EAB outbreak. EMI uses much of the wood to manufacture tool handles, and “beater brushes” for vacuum cleaners.

DIVERSIFIED WOOD MANAGEMENT

LaMont Brothers Tree Service, which runs state-designated marshaling yards in Waterford and Whitmore Lake, Michigan, is producing rough-cut green lumber, railroad ties and colored mulch from the wood, according to marketing representative Lee Kitzman. For making lumber, the ash wood is “pretty high-quality material,” Kitzman says. Grand Rapids-based Budres Lumber, one of Michigan’s largest kiln-dryers and lumber distributors, buys the ash, which is being used to make frames for upholstered furniture.



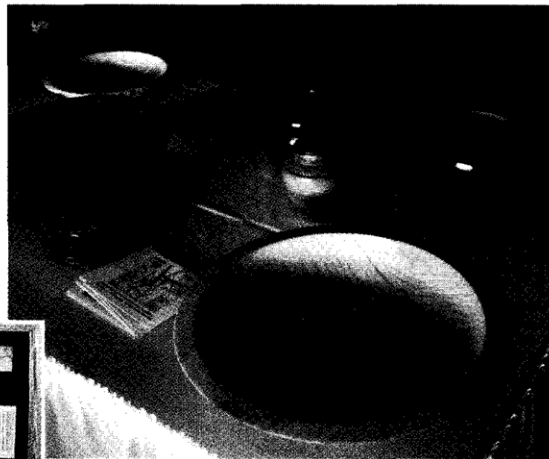
Milled ash is sold to furniture makers and woodworkers, who are making a variety of products, including cutting boards, vents, cabinet doors, etc (left) and bowls and vases (above).

Rising lumber prices and an increased demand for other hardwoods like cherry and oak are heightening demand for ash, already used to make products ranging from furniture to baseball bats. The value of ash has nearly doubled since Kitzman began researching potential wood markets in 2003 — from 43 cents to 73 cents per board foot, according to the Hardwood Marketing Report.

Before the advent of the ash borer crisis, LaMont Brothers was not in the grinding business, Kitzman notes. “We’re a tree-care service and we also do land clearing,” explains Kitzman. “But we

were aware of the need for resource recovery of green wood waste here in southeastern Michigan. All of the tree services in southeastern Michigan have been battling with the same problem — you go out in the field, take care of your clients and bring home the refuse. What do you do with it then?” For several years, the company had been researching the possibility of opening a resource recovery center, Kitzman says. “When the ash borer came along, that was a catalyst for us.”

LaMont has two grinding sites with a third soon to open. Its largest, permanent site in Washtenaw County (10 acres) has been handling an average of 3,500 to 4,000 tons of waste wood per month. “We’re extracting 30 percent of the waste stream,” he says. The company is developing markets for its compost and colored mulch. It sells wood for railroad ties to Webster Industries of Bangor, Wisconsin, one of the largest tie manufacturers in the U.S. Developing markets for wood from Michigan’s “incredible urban forest” should be a priority, Kitzman contends.



“In the past, buyers have not wanted to buy timber from the cities because there was too much debris to make it worthwhile. But that’s a fallacy.”

At its grinding sites, LaMont uses two Vermeer 6000 mobile, horizontal grinders, with 6-inch and 3-inch screens, to produce chips from 1- to 2-inches in size (the size required by the MDA’s ash borer program, depending on the time of the season). The chips are sold for fuel to the Consumers Energy generating plant in Flint. LaMont also received a \$50,000 grant from the Southeast Michigan RC&D, which it used to purchase a Wood-Mizer LT70HD portable sawmill. The new equipment enabled LaMont to supply Webster Industries with the lumber it uses for railroad ties and other products.