

VERMONT URBAN AND COMMUNITY FORESTRY PROGRAM

EAB Municipal Management Case Study

Chillicothe, Ohio

APPROACH

Preserving Urban Ash Trees

SUMMARY

Designated as a Tree City USA since 1994, the residents of Chillicothe, Ohio are rightly proud of their beautiful urban treescape. When emerald ash borer (EAB) was detected in 2011, the city's streets and parks were graced by many large and stately ash trees. At the time, Chillicothe's Shade Tree Commission included retired foresters, the state horticulturalist, and a certified arborist. The Commission briefly considered implementing a phased, slow removal of all ash trees. But because the large ash trees played such an important role in the city's appearance and identity, Commission members ultimately decided to try to preserve with insecticide treatments as many of the ash trees on their streets and parks as financially feasible. Richard Simpson, the Forestry Supervisor for the local utility company, American Electric Power (AEP), worked closely on the plan with the Tree Commission and supported using insecticide treatments.

In February 2013, the first 13 dead ash trees in Chillicothe's parks were felled pro bono by Asplundh, the tree removal contractor for AEP.¹

In 2019, in partnership with Ohio Department of Natural Resources (ODNR), the city received a U.S. Forest Service grant worth \$100,000 for an EAB Demonstration Project to evaluate and

report on the relative effectiveness and challenges of different insecticide treatments. As part of this grant, ODNR provided iTree landscape analysis to identify priority planting locations for replacement trees.

Another part of the demonstration project focused on how to use the wood from the ash trees, that were taken down. The saw logs from the first 13 ash removals were sold to a local sawmill for \$800. The remaining material was placed in a city parking lot and given to residents for firewood. The City cut 40 dead ash remaining in their right-of-way. The logs from these 40 trees have been sawn into 8/4 lumber using a portable sawmill on loan from the ODNR. This lumber will be used to construct kiosks within city parks, memorializing the many beautiful ash trees that once graced Chillicothe's streets.²

¹Just taking the trees down would normally cost approximately \$500 per tree. The Parks and Recreation crew followed Asplundh and cut the logs, chipped the branches, and cleaned up the debris.

²The City planned to invite students who attend a school near one of the parks to an Arbor Day demonstration in 2020 to see Parks staff use the portable sawmill to create the kiosks, but the demonstration was canceled due to COVID-19.

FAST FACTS

Population: 22,000

Miles of Town Maintained Roads: 105

Number of Ash on Downtown Streets and Parks Prior to Removals: 167

Normal Management of Public Trees: Public Service Department and Parks and Recreation Department work hand-in-hand. The Public Service Department is responsible for street trees, but Parks Department takes down any trees that require a bucket truck.

Active Tree Board or Conservation Commission: 11 member Chillicothe Shade Tree Commission

Local Tree Ordinance: Shade Tree Ordinance.

Ash Inventory Conducted: by Shade Tree Commission for downtown streetscape and parks in 2012, and for the rest of neighborhoods in 2020.

EAB First Detected: 2011

Written EAB Management Plan: None.

Ash Management Status in 2020: Started managing ash for EAB in 2013. 114 trees removed from city streets and parks. 53 trees in parks treated with insecticide. As of 2020, 12 treated trees died, and 41

remain healthy, treatment ongoing. Still doing some removals in neighborhoods outside of downtown.

Key Players: Chillicothe Shade Tree Commission; Manager and staff of City Parks and Recreation Department; Forestry Supervisor for local electric company (AEP Ohio); Ohio Department of Natural Resources (ODNR).

Funding: The Shade Tree Commission has a \$15,000 annual budget; all activities came out of this budget. In addition, Asplundh/AEP Ohio took down 13 dead ash in 2013 pro bono. The City's Parks and Recreation Department completed almost all other removals. In partnership with the ODNR, the city received a U.S. Forest Service Demonstration Project grant to evaluate and report on relative effectiveness and challenges of different insecticide treatments. The \$50,000 grant was matched by another \$50,000 worth of in-kind services from both ODNR and the City of Chillicothe, for a total value of \$100,000.

Wood Utilization: As part of the demonstration grant, ODNR also provided the city with a portable sawmill to turn wood from felled ash into kiosks, benches and other projects for the city.

Contacts: Clint Boggs, Manager, City of Chillicothe Ohio Parks Department, Clint.boggs@chillicotheohio.gov (740) 772-5626



Row of large, stately ash



Removing infested ash with bucket truck

ACTUAL COSTS

Because the Parks Department has a bucket truck and International Society of Arboriculture (ISA) Certified Arborists, the city has been able to do almost all of the remaining ash removals, including the chipping and stump grinding, using their own staff and equipment.

Activity	Cost per Unit	No. of Trees	Work Done By	Time Period 2019-2029
Treatment	Soil & Tree Injection ^{3,4} approx. \$30 per tree (based on DBH) or \$1,230 per year	Started with 53 trees, 12 died, 41 remain healthy	Contractor	\$8,610 over 7 years, ongoing
Removal, Chipping & Stump Grinding	\$750-3,000 per tree	78 removed	Parks & Rec. (62 trees) Contractor (3 trees) AEP (13 trees)	\$156,000 value (mostly in-kind by City staff) over 7 years
Replanting: Cost of Trees	1.5" diameter, \$75-275 per tree	100-200 ⁵	Nursery Supplier	\$13,750 (over 7 years)
Replanting: Cost of Labor	\$50-200 (estimate per tree if work done by contractor)	100-200	Parks & Rec., Tree Commission Volunteers, and Contractor	\$15,000 (over 7 years)
Grand Total	\$27,622 per year = \$193,360 over 7 years			

³Soil injection is every year; tree injection is once every two years. Imidacloprid is used in both methods. Soil injection is the principle method. Imidacloprid is not used in Vermont because it is a neonicotinoid.

⁴Times for each procedure: Injecting all 41 trees with insecticide, approximately 8 hours per season. Tree removal, chipping, stump grinding and cleanup, approximately 4 hours per tree. Replanting, using Parks and Recreation equipment to dig 36" diameter hole, and Tree Commission volunteers to plant, mulch, and stake tree (in pail or balled and burlapped), approximately 25 minutes per tree.

⁵The wide range is because although removals and replacements have been completed in the downtown, these activities are still ongoing in some of the neighborhoods.

ON THE GROUND

We inspected the ash population and decided which to keep and which to remove. We had researched the treatment strategies of research universities and other cities. We then decided to treat the 53 remaining viable ash in the city park. Some 49 stressed-out, dying, and dangerous park and streetscape ash trees were removed, and new trees planted. In the beginning, it was difficult to determine which trees to treat. The rule of thumb used was if the tree was over 50% dead, it was removed. Now most of the trees that are being treated are doing well.

Clint Boggs, Manager, City of Chillicothe Ohio Parks Department, and members of the Chillicothe Shade Tree Commission

LESSONS LEARNED

“Removal of dead trees is expensive, but leaving hazardous trees can be more expensive.”
Walt Smith, Member, Chillicothe Shade Tree Commission and retired forester

- **Foster a devoted team of volunteers that really love trees.** There were people on the Chillicothe Shade Tree Commission at the time the city was determining how to address EAB, who said they would resign if the city stopped treating the public ash trees.
- **If you want to keep ash in your tree population, treatment is necessary.** Insecticide will keep the ash trees alive and healthier for a significant amount of time. Tree injection is every 2-3 years and is the most expensive but most effective method.
- **Insecticide treatment should be administered by a professional** that is able to assess trees suitable for treatment.
- **Build a good working relationship with your local electric company.** Utilities and municipalities share many of the same goals and working together will benefit both.

ABOUT THE PROJECT

The Emerald Ash Borer Municipal Management Case Studies were developed to help municipalities determine the best approach to ash management for their unique situation. The case studies were drawn from six municipalities in the Midwest, New England, and Vermont that vary in population, percentage of public trees that are ash, and resources.

Vermont Urban & Community Forestry Program

Vermont Department of Forests, Parks and Recreation in partnership with University of Vermont Extension



Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. University of Vermont Extension, Burlington, Vermont. University of Vermont Extension, and U.S. Department of Agriculture, cooperating, offer education and employment to everyone without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status.