City of Fitchburg

Emerald Ash Borer (EAB) Management Plan

Updated July 2024

CITY OF FITCHBURG FORESTRY DEPARTMENT
5520 LACY ROAD
FITCHBURG, WI 53711

Executive Summary

In response to the detection of EAB in Michigan in 2002, the City of Fitchburg Common Council adopted an EAB Readiness and Response Plan in 2010. An EAB infestation was confirmed in the City of Fitchburg on May 18, 2017. As a result, the Common Council adopted an updated City of Fitchburg EAB Management Plan in March of 2018.

The updated management plan outlined a two-pronged management approach involving the chemical treatment TREE-äge (active ingredient Emamectin Benzoate) coupled with the removal and replacement of public ash trees as appropriate. The 2024 EAB Management Plan Update reflects the City of Fitchburg's reality of coping with the most destructive forest pest ever experienced in North America with no additional personnel or operating budget resources.

Figure 1: An ash lined street in Detroit, before (2006) and after (2009) the trees were infested with EAB. (Photo credit Dan Herms)

Purpose and Scope

The purpose of the 2024 Emerald Ash Borer Management Plan Update is to minimize the ecological, economic, and aesthetic impact of the emerald ash borer on the urban forest in the City of Fitchburg. This plan provides a management strategy for all publicly owned ash trees in the municipality.

Figure 2: Healthy Park Ash tree that has been treated. (Photo credit Morgan Hayes)

Figure 3: Infested Ash tree in Fitchburg. (Photo credit Morgan Hayes

Emerald Ash Borer in Fitchburg

On May 18, 2017 an EAB infestation was confirmed in the City of Fitchburg along County Highway M near the intersection with County Hwy MM and Highway 14. All ash trees in the area were heavily infested and have subsequently died and been removed. Since this time, most ash trees throughout the municipality that have not been treated with pesticides, are in serious decline or have been killed by the emerald ash borer.

Emerald Ash Borer in North America

Emerald ash borer (*Agrilus planipennis*) is native to East Asia and is a highly destructive insect that was first detected on the North American continent in southeastern Michigan during the summer of 2002. Experts believe that the introduction was likely in the early 1990's in solid wood packing materials used in international cargo shipments. By the time its presence was confirmed, infestations were well established. EAB is not a threat to human health but it is 100 percent fatal to our native ash trees of any size, any age, healthy or unhealthy. In Asia, predators and pathogens keep EAB population in check. In North America, EAB has few predators and ash trees have no natural resistance.

The EAB larva kill the tree by feeding on the inner bark or phloem. This feeding disrupts the trees' ability to transport water and nutrients, causing the tree to starve and eventually die. A tree that has been attacked by EAB will die within 2-4 years depending on local conditions.

The emerald ash borer can expand its range up to several miles per year during the adult beetles' June to August flight period. Human activities, such as moving infested firewood, have led to the spread of the EAB over much of the North American continent. As of August 2024, the southern third of Wisconsin is considered generally infested with emerald ash borer causing the death of untold millions of ash trees. EAB is currently extirpating the entire *Fraxinus* (ash) genus from the North American continent.

Emerald Ash Borer Regulations

In 2021, EAB was deregulated at the national level by the USDA Animal and Plant Health Inspection Service (APHIS), and Wisconsin's EAB quarantine rule was rescinded in 2023.

The emerald ash borer is regulated by the Wisconsin Department of Natural Resources (DNR) through Chapter NR 40, Wis. Adm. Code. DNR revised the rule NR 45.04 (1) (g) restricting firewood movement onto DNR managed properties in Wisconsin to prevent the spread of EAB to Wisconsin forests and recreational areas. NR-40 rule emerald ash borer was moved from Restricted from Prohibited in 2015.

The City of Fitchburg does not regulate the movement of the emerald ash borer or ash woody material.

Assessment of Existing City of Fitchburg Forestry Resources

Forestry Personnel

The focus of the City of Fitchburg Forestry program is to plant between 300-400 trees per year and maintain the approximately 14,100 trees on public property. This urban forest requires proper management to retain these trees on the landscape and realize their benefits in the long term. The execution of this EAB Management plan is dependent on the availability of trained staff to carry out the plan.

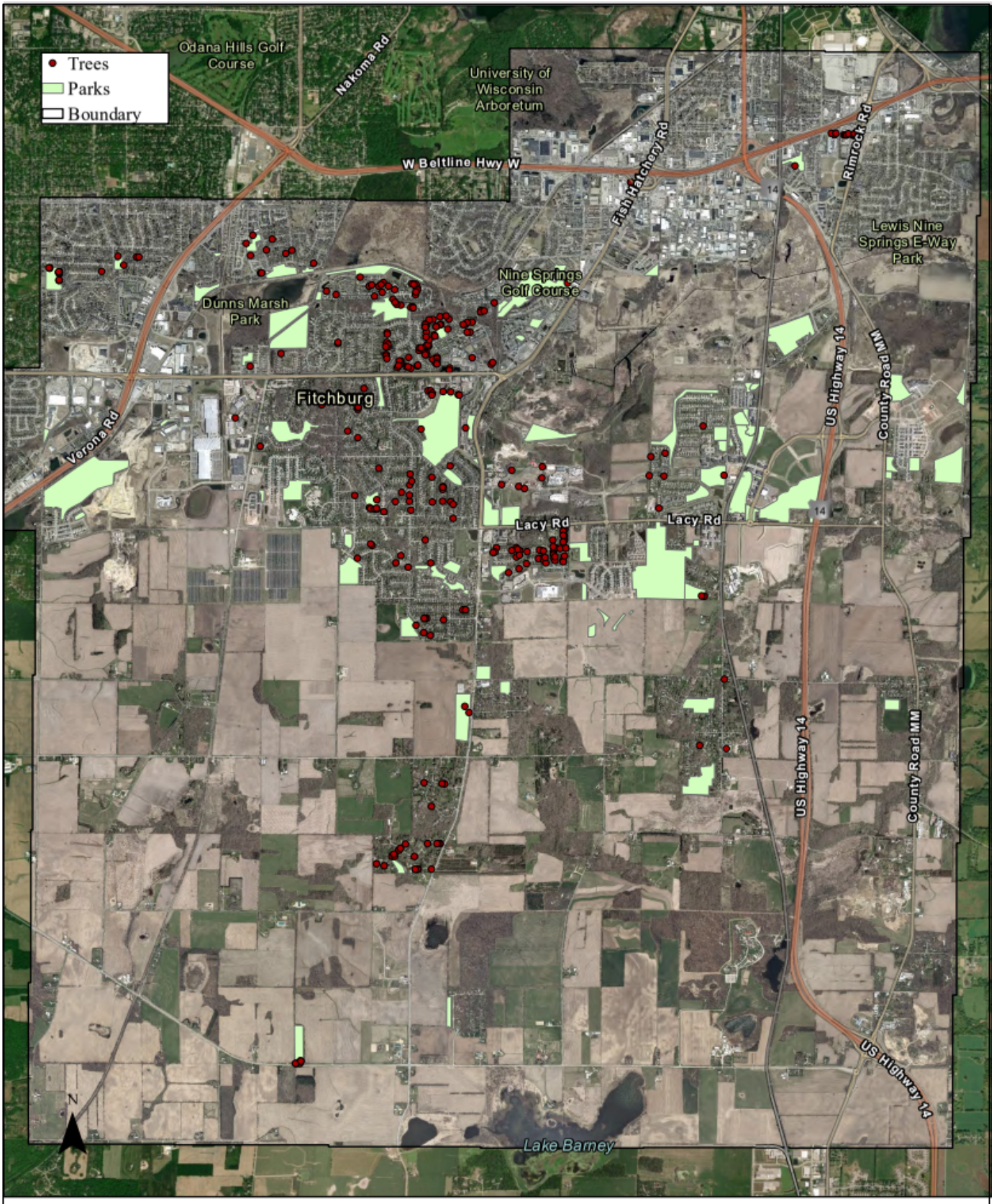
The Departments of Parks, Recreation and Forestry is staffed by one permanent urban forester who is an ISA Board Certified Master Arborist. This position works cooperatively with Public Works staff to manage the City of Fitchburg urban forest.

It is remarkable that the City of Fitchburg has been able to absorb the workload associated with EAB management within current staffing and budgets levels. The crew size and equipment capability is currently adequate to continue handling all EAB related tree work if carefully planned. This leaves little staff or budget capacity to address additional workload or other forest pests.

City of Fitchburg Ash Tree Inventory

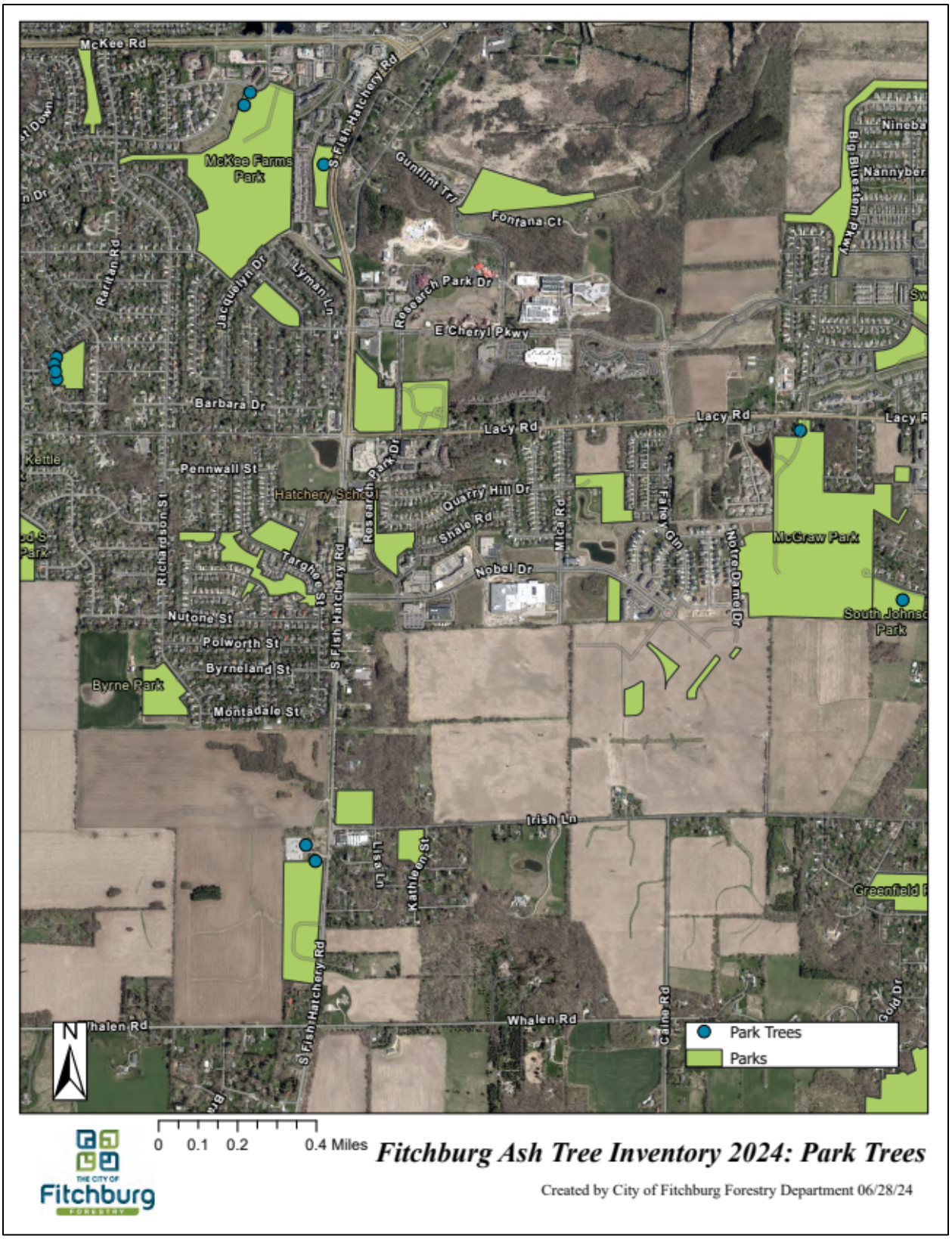
As of July 2024, the number of ash trees growing on public property in the urban service area, City parks throughout the City, and rural residential developments is 301, Approximately 286 ash trees are growing on public streets (approximately 450 in 2010) and 15 ash trees are growing in parks (approximately 250 in 2010). The total number of trees of all species on streets and in parks is approximately 14,177. The number of ash trees in woodlots, rural right-of-ways (ROWs) and private property is unknown. Ash trees located in City owned woodlots that have not been chemically treated are either dead or in serious decline.

The trees in the Town of Madison acquisition were surveyed in the winter of 2023. There are 22 ash trees in this area. None of them were candidates for chemical treatment. City staff wrote a grant to remove and replace these trees. If the grant is not funded, they will be removed and replaced as staff time allows. The ash trees in Southdale Park and the surrounding area were removed and replaced in the summer of 2023.



Fitchburg Ash Tree Inventory 2024: Street Trees

Created by City of Fitchburg Forestry Department 06/23/24


McKee Rd
McKee Farms Park
S Fish Hatchery Rd
Gunflint Trl
Fontana Ct
Nineba
Nannyber
Big Bluestem Pkwy
Raritan Rd
Jacquelyn Dr
Lyman Ln
Research Park Dr
E Cheryl Pkwy
Barbara Dr
Lacy Rd
Kettle
Pennwall St
Hatchery School
Quarry Hill Dr
Shale Rd
Mica Rd
Notre Dame Dr
McGraw Park
Richardson St
Nobel Dr
Nutone St
Polworth St
Byrneland St
Byrne Park
Montadale St
South Johnson Park
Irish Ln
Lisa Ln
Kathleen St
Greenfield
Whalen Rd
Caine Rd
N
Park Trees
Parks
0 0.1 0.2 0.4 Miles
Fitchburg Ash Tree Inventory 2024: Park Trees
Created by City of Fitchburg Forestry Department 06/28/24

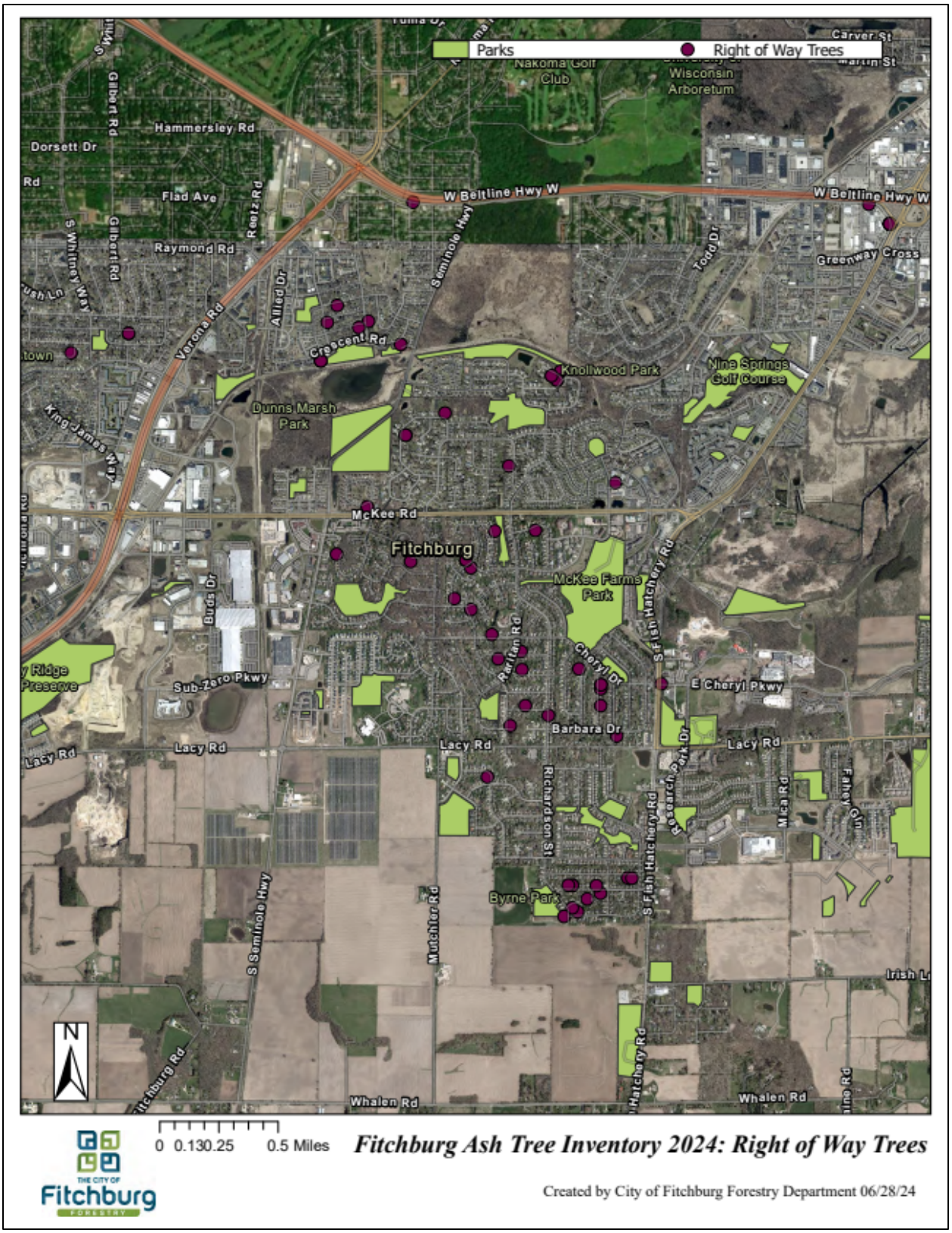

Parks
Right of Way Trees
Nakoma Golf Club
Wisconsin Arboretum
Carver St
Martin St
Hammersley Rd
Dorsett Dr
Flad Ave
W Beltline Hwy W
Reetz Rd
Gilbert Rd
S Whitney Way
Raymond Rd
Seminole Hwy
Todd Dr
Greenway Cross
Verona Rd
Allied Dr
Crescent Rd
Knollwood Park
Nine Springs Golf Course
Dunns Marsh Park
King James Way
McKee Rd
Fitchburg
McKee Farms Park
S Fish Hatchery Rd
Buds Dr
Raritan Rd
Cheryl Dr
E Cheryl Pkwy
Sub-Zero Pkwy
Barbara Dr
Lacy Rd
Richardson St
Research Park Dr
Mcal Rd
Fahey Glen
Byrne Park
Mutchler Rd
S Seminole Hwy
Whalen Rd
N
0 0.130.25 0.5 Miles
THE CITY OF Fitchburg FORESTRY
Fitchburg Ash Tree Inventory 2024: Right of Way Trees
Created by City of Fitchburg Forestry Department 06/28/24

Figure 4: Size chart for City of Fitchburg ash trees.

***** Does not include 22 trees Fitchburg inherited from the City of Madison.**

Ash Management Strategy

The City of Fitchburg Department of Parks, Recreation, & Forestry is the lead department responsible for plan implementation. Working with the Park Commission and the Tree Advisory Committee, the Department will implement a treatment program coupled with an ash removal and replacement program to manage the current EAB infestation in the City of Fitchburg.

Ash Treatment Program

an ash tree is based on the tree diameter at breast height (DBH). One liter is enough chemical to treat approximately 100 inches of ash trees or 10 ash trees that measure 10 inches DBH. The current budget allows for the treatment of approximately 100 ash trees annually.

The City of Fitchburg started treating public ash trees in 2013 on a three year cycle. One third of the trees were treated in 2013, the second third in 2014, and the last third in 2015. Considering EAB has been present in the municipality for approximately 10 years or longer, it is likely that many of these trees, particularly those treated in 2015, may have been infested with EAB prior to being treated.

The label of TREE-äge indicates ash trees should be treated every two years to ensure protection against EAB. In 2017, the treatment program was changed to treating ash trees on a two-year cycle. All public ash trees have assigned either an odd or even year for treatment. This treatment schedule has continued.

To insure treating trees is a good investment, the Urban Forester and the Parks and Recreation, and Forestry Assistant inspect each ash tree scheduled for treatment for structural and vascular integrity. Ash inspections take place in the month of August so chlorotic conditions and the condition of the canopy cover can be observed. The vascular integrity of the tree is examined to determine if the ash tree can translocate the chemical through the tree. If the ash tree is not able to translocate the chemical treatment, the tree will not be protected from emerald ash borer and will become infested and die. The structural integrity is examined to ensure the tree can withstand normal weather events without damage that would necessitate removal. Any ash trees that have structural or vascular defects are scheduled for removal and replacement. It typically takes about 10 hours to identify the location of the ash trees using the current tree inventory and conduct the tree inspections throughout the City of Fitchburg.

The inspection component is the key to the success of the Ash Management Plan. Trees that are unable to translocate TREE-äge cannot be protected from the emerald ash borer and will become infested and die. If these trees are scheduled for removal in August, current staffing levels can absorb the tree removal work load over the winter months. The crisis of hundreds of hazardous ash trees is avoided. The trees can be replaced the following spring or fall.

The document *Fitchburg Ash Tree Condition Assessment Ratings for EAB Treatment* is used to rate all ash trees. Ash trees with a *Good* or *Fair* rating is scheduled for treatment the following spring. This document is Appendix A at the end of this management plan.

The chemical treatment of the tree has to take place after the trees are in fully leaf out but before EAB has emerged from the tree. This typically takes place the last week in May and the first two weeks in June. It took a total of approximately 80 staff hours (2 park staff 2 weeks) to complete the injections of the trees in 2024.

Ash Trees Treated Per Year
(Since 2013)

YEAR	*TREATED TREES*
2013	*153*
2014	*238*
2015	*237*
2016	*146*
2017	*229*
2018	*160*
2019	*161*
2020	*145*
2021	*148*
2022	*116*
2023	*90*
2024	*100*

Current Treatment Program Cost

- $5,500 Chemical
- $5,200 staff time
- **Total treatment cost $10,700 per year**.

This cost is relatively consistent from year to year. One factor that will increase the cost would be drought conditions. Ash trees can only uptake the chemical if they are moving water from the

roots to the leaves. During drought conditions, it may be necessary to water the trees several hours ahead of chemical treatment. This will increase the staff time necessary to treat the trees.

Ash Removal and Replacement

Ash trees that receive a *Poor* or *Remove Now* rating during fall inspection will be removed the fall / winter after they are inspected and replaced the following spring or fall. The tree removal, stump grinding, and site restoration will be handled by city employees. The removal, disposal, stump grinding, and site restoration for all 301 ash trees by city employees is likely to take approximately 1,000 hours or about 40 days for a crew of three workers. For liability reasons, ash trees should not be allowed to remain standing for more than a year after being rated as *Poor*. The ash trees rated *Remove Now* should be removed as soon as possible. If planned appropriately, the city's streets and parks staff can absorb the additional workload of these tree removals. Without proper planning, the city employees will not be able to manage this additional workload without additional funding, assistance from contractors, and / or a significant reduction in services to Fitchburg residents. This workload has left City staff with limited ability to respond to other forest pests such as spongy moth (*Lymantria dispar*) or other challenges.

Most tree planting is contracted on an annual basis in the spring or fall through a competitive bidding process. The cost per tree is generally $300. If all city-owned ash trees were replaced it would cost approximately $90,600 and take approximately 5 years to complete the planting.

In wooded areas, natural regeneration will play a significant role in reforesting parkland, but invasive/non-native plants will create challenges. Ash trees in wooded areas will be left alone. When these trees die they will be felled and left in the woods.

Ash Removed Per Year (Since 2015)

Year	*Ash Trees Removed*
2015	*107*
2016	*16*
2017	*35*
2018	*61*
2019	*55*
2020	*117*
2021	*42*
2022	*24*
2023	*23*

Private Trees – Treatment, Removal and Replacement

There are hundreds of ash trees on private property in Fitchburg. The management of these trees is the sole responsibility of the property owner. The City has little authority to mandate removal

of dead ash trees unless they rise to the level of public nuisance as regulated by City ordinance.

Wood Debris Management

The City of Fitchburg will handle the wood generated by ash removals the same as other tree removals. There is no anticipation of the "wall of wood" from emerald ash borer killed trees that was predicted in the early days of the infestation.

Public Education and Communication

Upon adoption by the City of Fitchburg Common Council, the EAB Management Plan will be posted on the City of Fitchburg website. Any updates to plan will be presented to the Tree Advisory Committee, Park Commission. The Urban Forester and Naturalist will present the EAB Management plan to any City of Fitchburg Board or Commission as requested.

For More Information

For the most up to date information on emerald ash borer, please visit the following web sites:

Wisconsin's Emerald Ash Borer Information Source
http://datcpservices.wisconsin.gov/eab/index.jsp

Emerald Ash Borer Information Network
http://www.emeraldashborer.info/index.php

Insecticide Options for Protecting Ash Trees from Emerald Ash Borer (second edition)
http://emeraldashborer.info/documents/Multistate_EAB_Insecticide_Fact_Sheet.pdf

Appendix A.

Fitchburg Ash Tree Condition Assessment Ratings for EAB Treatment

Date_____
Object ID #_____
DBH_____

GOOD

- Healthy, full canopy (<10% defoliation)
- No or minimal structural defects
- No disease or infestation evident
- Adequate grow space
- **Action: Treat**

FAIR

- 10%-30% decline
- Few structural defects
- No disease or insect infestation evident
- Trunk wound <20% of circumference
- **Action: Treat**

POOR

- >30%-60% decline
- Multiple structural defects
- Trunk wound 20%-30% of circumference
- Tight, 'V' shaped branch unions with included bark that are susceptible to branch failure
- Poor crown structure – e.g. storm damage, heading cuts. Prior pruning that results in poor branch taper, poor wind load distribution, and a higher risk of branch failure
- Poor grow space – narrow terraces; vision obstructions at corners, stop signs, or traffic control or directional signs; within 20' of structures or above ground utilities
- Highly chlorotic (crown 30% or more with chlorotic leaves)
- **Action: Mark for Removal**

REMOVE NOW – trees that will be scheduled for removal and replacement during inspection

- >60% decline
- Several structural defects that warrant removal
- Unbalanced, asymmetrical crown; poor structure as in poor above
- Trunk wound >30% of circumference
- Severely severed or disrupted root or highly compacted root zone
- Significant root damage to adjacent sidewalk and curb and gutter
- Hazardous
- **Action: Mark for Removal**

COMMENTS

_____

_____