



ONONDAGA COUNTY ASH TREE MANAGEMENT STRATEGY: A PROGRESS REPORT

June 2022

I. BACKGROUND

A. Introduction

Emerald ash borer is now a matter of fact in Central New York and its effects are being seen all around Onondaga County. One out of every nine trees in the County is an ash tree. With this knowledge in mind, in 2012, the County set out to develop a strategy for proactively mitigating the worst effects of emerald ash borer on County lands. This document will serve to provide an overview of the progress in implementing the Onondaga County Ash Tree Management Strategy since its inception in 2014 and to make any updates needed to the Management Strategy here at the halfway mark of the project.



B. Formulation of Management Strategy

An exhaustive inventory of all ash trees on County-owned lands was initiated in 2012 and completed in 2013. The results of this inventory identified 46,730 ash trees that were located on County lands with “targets in the drop zone,” – trees that are likely to injure or cause damage to the public or to County infrastructure if their limbs or trunks were to fall. It was decided that a comprehensive strategy was needed to articulate a plan for managing these trees before they could pose a hazard. This strategy was to be formulated with two goals in mind: 1) ensuring the safety and security of the public and of County assets and infrastructure and 2) retaining some of the ecological and social benefits that the ash trees currently provided, and to do both of these in the most timely and cost-effective manner possible.

Upon consultation with local authorities in regions that had previously experienced a large scale ash tree deforestation due to emerald ash borer, a balanced, or “selective,” approach was chosen as the preferred method for the Onondaga County Ash Tree Management Strategy. A ratio was decided upon

whereby 95% of the ash trees inventoried (approximately 44,000) would be preemptively cut down and removed before they could become a threat and the remaining 5% (approximately 2,300) would be selected for preservation with pesticides based on the aesthetic, cultural, or ecological value they provide to the community. A number of new non-host trees equal to approximately 10% of the number of trees that were to be removed (approximately 4,400) would then be planted to, in time, replace some of the canopy that was lost.

Under the chosen strategy, ash tree removal in all parts of the county would be carried out over a ten year period beginning in 2014 so as to diffuse the annual cost of the operation, but still accomplish the stated goals of the strategy in a timely manner. Tree planting to replace some of the trees felled would also be phased over the same period. Inoculation with pesticide of the high value trees selected for preservation would be continuously carried out every two to three years for a period of 25 years.

Table 1 – Cost Projection in Ash Tree Management Strategy

Estimated tree removal costs (over 10 years)	\$9.6 million
Estimated tree replacement costs (over 10 years)	\$1.5 million
Estimated tree inoculation costs (over 25 years)	\$1.6 million
Estimated administrative/oversight costs (over 10 years)	\$0.8 million
Estimated total cost (over 25 years)	\$13.5 million

II. IMPLEMENTATION

A. Subsequent Modifications to the Management Strategy

The Onondaga County Ash Tree Management Strategy was put into practice in June of 2014. It was determined that the work would be carried out by the Onondaga County Soil and Water Conservation

District (OCSWCD) and be overseen by the County Office of Environment. The work would be done in Phases, each of which would last from June 1st – May 31st.

The initial decision on a ten year timeframe for the removal of ash trees and planting of new trees to supplement lost canopy was subsequently lengthened to a period of fifteen years. This was done to bring the approximate yearly cost of the program down from around \$1,000,000 to a more feasible \$750,000. It was also done to accommodate for the high concentrations of ash trees that would need to be removed in spaces that would remain open to the public throughout the removal process (roads, sidewalks, parks, trails), while still completing the work in a timely manner.

The number of ash trees to be removed in the initial Ash Tree Inventory has been revised upward slightly from approximately 44,000 to 46,809 (Onondaga County Soil and Water Conservation District, 2022). This discrepancy can be attributed in part to in part to additional



management units being added to the Inventory in areas on the periphery of County lands that were missed during the initial count, and in part to tree growth in the time between the Inventory and the commencement of the Management Strategy in each location. Trees that were only saplings at the time of the Inventory have now grown to such a size as to have to be reckoned with under the terms of the Management Strategy.

Table 2 – Tree Removals Anticipated vs. Carried Out

Location	Estimated Removals	Trees Removed
Camillus	421	843
Cicero	867	786
Clay	706	281
DeWitt	301	406
Elbridge	1,778	-
Fabius*	1,361	959
Geddes	17	2
LaFayette	1,757	2,295
Lysander	2,274	-
Manlius	1,266	860
Marcellus	1,671	-
Onondaga	1,157	609
Otisco	853	-
Pompey*	4,303	3,331
Salina	308	139
Skaneateles	765	-
Spafford	1,483	-
Tully	714	-
Van Buren	1,512	867
Beaver Lake	1,309	-
Carpenter's	37	57
Highland	11,287	-
Hillbrook	23	44
Hopkins Road	306	559
Jamesville	530	287
Jordan Level	1,175	-
OCC	224	393
Onondaga	4,984	1,288
Oneida Shores	1,167	3,770
Pratt's Falls*	803	244
Pump Stations	681	-
Waste Water	453	-
911 Towers	68	40
Miscellaneous	248	1,004
TOTALS	46,809	19,422

* denotes where ash tree removals are currently ongoing

A further reason for the discrepancy is the inconsistency in the measurement of ash trees within Rights of Way (ROW). The staff who carried out the Inventory had a general sense of which trees fell within the ROW, but they did not perform strict measurements on the 1,600 road miles of trees given the timeframe in which the Inventory needed to be completed. When workers arrived on site to carry out the removals, more exact measurements determined that some trees that were initially thought not to be in the ROW in fact were and had to be removed.

The overall unsuitability of inventoried ash trees for preservation has forced the number of ash trees scheduled for preservation to be revised downward significantly. The estimated number of trees to be inoculated under the Management Strategy was to be approximately 2,300, but due to the scarcity of trees that meet the criteria for preservation, namely those exhibiting a high probability of survival, a mere 395 ash trees have been inoculated. This discrepancy is another factor that has contributed to the upward revisal in tree removals.

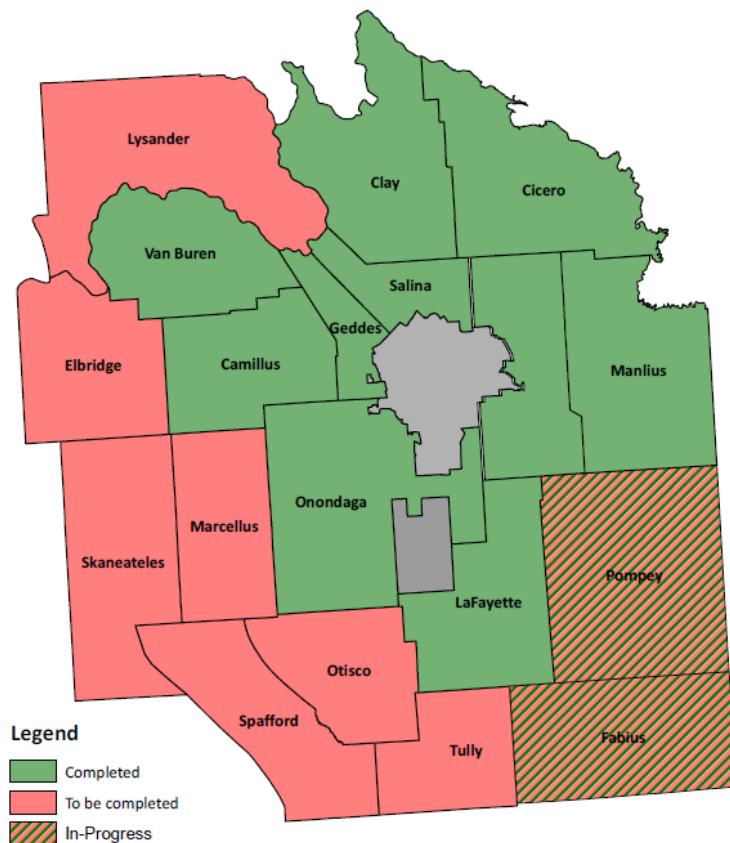
B. Rate of Progress

As of the end of Phase VIII (May 31st, 2022), 19,422 ash trees have been removed throughout Onondaga County. Ash tree removal has been completed in ten of the nineteen towns that make up Onondaga County, with the exceptions within the towns of Salina and Geddes of Onondaga Lake Park, where removals remain ongoing, as well as within the town of Elbridge, where work has yet to commence on the Jordan Level Trail on the Erie Canalway. Tree removal is currently in progress in two towns (Pompey and Fabius). In

the remaining seven towns, tree removal is scheduled to be carried out during the remaining Phases of the project (Phases IX-XV).

Tree inoculation has been ongoing since the start of the Ash Tree Management Strategy in 2014 and is scheduled to continue through 2039. To date, 395 trees have been inoculated against emerald ash borer. Due to the

progress of emerald ash borer in the County, it is unlikely that any additional trees will be identified as suitable candidates for preservation through inoculation treatments. However, the 395 trees that have been preserved will continue to be inoculated every two years for as long as they are healthy and will continue to provide amenities to the citizens of Onondaga County.



Since the start of the Ash Tree Management Strategy, 2,522 non-ash trees have been planted throughout Onondaga County. OCSWCD has employed several different strategies for implementing these plantings. OCSWCD have regularly partnered with Onondaga Earth Corps (OEC), an inner-city job readiness program, to plant between 100-200 trees per year since the beginning of the Management



Strategy. They have also hosted several highly successful community outreach planting events at which volunteers helped plant trees in their local communities. The value to the County of the work performed by these volunteers has been

estimated at \$19,683. As they grow, the trees planted will replace some of the canopy lost from the impacts of emerald ash borer on Onondaga County. Tree planting is scheduled to continue through the end of Phase XV.

The safety record displayed thus far by those involved in the ash tree removal process has been exemplary. OCSWCD has performed weekly safety checks since the commencement of the project and will continue to do so for its remainder. A total of 53 contracts for ash tree removal have been/are being implemented over the course of the Management Strategy and to date, not a single injury has been reported.

The directive to limit impacts to the endangered Indiana Bat and Northern Long-eared Bat during the removal process was included in the Management Strategy due to their predilection for ash trees in choosing their roosting sites. According to OCSWCD, all efforts have been made throughout the removal

process to limit activities that would interfere with their natural activities and no complications have arisen surrounding that directive.

In addition to the work they have done in carrying out the Ash Tree Management Strategy on County lands, OCSWCD has been able to supplement the efforts of the towns of Cicero, Clay, DeWitt, Marcellus, and Skaneateles and the counties of Chenango, Oswego, St. Lawrence, and Tompkins by providing various levels of support in their own efforts to mitigate the effects of emerald ash borer.

C. The COVID-19 Outbreak

The outbreak of COVID-19 in 2020 forced work on the Ash Tree Management Plan to be put on hold while the County complied with the austerity measures put into place. After it was first discovered to have made its way to the shores of the US, the coronavirus mostly shut down entire enterprises while they grappled with how best to conduct business under this new threat. County finances, which were highly reliant on sales tax to fund operations, were heavily impacted. This period corresponded with Phase VII of the Management Strategy (2020-2021). Only five trees were removed during Phase VII. Tree plantings likewise slowed to a fraction of what they had been (45). Tree inoculations, however, were able to continue at a pace akin to that of previous Phases (189).

Table 3 – Project Breakdown by Phase

Phase	Years	Trees Removed	Stumps Removed	Removal Cost	Tree Injections	Injection Cost	Trees Planted
I	2014-2015	575	121	\$154,180.75	1	\$69.30	
II	2015-2016	1,463	223	\$239,839.00	191	\$19,364.00	130
III	2016-2017	3,273	164	\$197,083.00	182	\$14,065.00	696
IV	2017-2018	3,725	308	\$373,439.87	207	\$25,505.00	975
V	2018-2019	4,045	265	\$382,467.00	191	\$14,880.00	312
VI	2019-2020	3,334	163	\$386,984.38	208	\$26,170.00	353
VII	2020-2021	5	0	\$8,000.00	189	\$15,270.00	45
VIII	2021-2022	3,002	88	\$411,769.00	206	\$27,710.00	67
Totals		19,422	1,332	\$2,153,763.00	-	\$143,033.30	2,578

Eventually, after the initial spread of the virus had waned and people began to return to work, business resumed at a cautious but steady pace, and this held true for tree removal efforts. Phase VIII of the Management Strategy (2021-2022) saw an increase in tree removals from 5 to 3,002. Tree plantings increased at a more moderate pace, from 45 to 67. Despite the loss of nearly an entire year of productivity, and barring another spike in COVID-19 cases, the Ash Tree Management Strategy appears to be back on track for its original end date.



D. Financial Considerations

Initial cost projection in the Ash Tree Management Strategy for ash tree removal throughout the County was \$9.6 million over a ten year period, but actual costs have come in quite a bit lower. On average, the per tree cost of ash tree removals has been lower than that projected during the planning and budgeting of the project. OCSWCD attributes this to their contract procurement policy and competitive bidding between contractors. This may also be due in part to the decision to extend the timeframe for tree removals and plantings from ten to fifteen years.

Table 4 – Tree Removal Costs Estimated vs. Actual

Location	Estimated Removals	Estimated Cost	Trees Removed	Actual Cost	Town Status
Camillus	421	\$43,579.00	843	\$67,925.00	Completed
Cicero	867	\$43,985.00	786	\$34,955.00	Completed
Clay	706	\$76,801.00	281	\$36,695.00	Completed
DeWitt	301	\$40,790.00	406	\$25,513.50	Completed
Elbridge	1,778	\$207,864.00	-	-	Not Started
Fabius*	1,361	\$132,946.00	959	\$88,845.00	In Progress
Geddes	17	\$3,093.00	2	\$1,818.00	Completed
LaFayette	1,757	\$169,590.00	2,295	\$150,753.00	Completed
Lysander	2,274	\$192,400.00	-	-	Not Started
Manlius	1,266	\$106,658.00	860	\$80,108.00	Completed
Marcellus	1,671	\$166,189.00	-	-	Not Started
Onondaga	1,157	\$134,745.00	609	\$63,410.00	Completed
Otisco	853	\$68,972.00	-	-	Not Started
Pompey*	4,303	\$452,101.00	3,331	\$303,334.00	In Progress
Salina	308	\$39,099.00	139	\$14,736.87	Completed
Skaneateles	765	\$81,885.00	-	-	Not Started
Spafford	1,483	\$178,422.00	-	-	Not Started
Tully	714	\$47,161.00	-	-	Not Started
Van Buren	1,512	\$137,610.00	867	\$77,685.00	Completed
911 Towers	68	\$4,358.00	40	\$7,125.00	Completed
Beaver Lake	1,309	\$161,602.00	-	-	Not Started
Carpenter's Brook	37	\$22,587.00	57	\$19,235.00	Completed
Highland Forest*	11,287	\$1,831,874.00	358	\$107,900.00	In Progress
Hillbrook	23	\$2,190.00	44	\$6,000.00	Completed
Hopkins Road	306	\$37,410.00	559	\$27,045.00	Completed
Jamesville Beach	530	\$34,713.00	287	\$23,514.00	Completed
Jordan Level	1,175	\$123,678.00	-	-	Not Started
OCC	224		393	\$36,664.28	Completed
Onondaga Lake Park*	4,984	\$891,320.00	1,288	\$531,041.10	In Progress
Oneida Shores	1,167	\$161,033.00	3,770	\$238,064.00	Completed
Pratt's Falls*	803	\$125,626.00	244	\$44,804.00	In Progress
Pump Stations	681	\$32,296.00	-	-	Not Started
Waste Water Plants	453	\$22,896.00	-	-	Not Started
Miscellaneous	248	\$13,586.00	1,004	\$166,592.25	
TOTALS	46,809	\$5,789,059.00	19,422	\$2,153,763.00	

* denotes where ash tree removals are currently ongoing

As of the end of Phase VIII (May 31st, 2022), \$2,153,763.00 has been spent on the removal of 19,422 ash trees in twelve towns in Onondaga County. The County has paid to inoculate 395 ash trees in various locations at a cost of \$143,033.30. The planting program has spent \$193,907.84 on labor to add 2,522 non-ash trees throughout the County.

III. PROJECTIONS

A. Phase IX

Phase IX of the Ash Tree Management Strategy began on June 1st, 2022 and activities are currently underway. 2,334 trees are slated for removal in this Phase. Tree removals will continue to take place in the towns of Pompey and Fabius, and also in Onondaga Lake Park and Pratt's Falls. Removals are also expected to commence in Beaver Lake and Highland Forest, a location with one of the densest ash tree populations in the County.

190 trees are scheduled to receive their periodic inoculation injections in this Phase of the project, and around 200 non-ash trees are expected to be planted. The budget for Phase IX is \$525,000, but as the threat of COVID-19 lessens and activity continues to increase, that is expected to rise to \$750,000 next year and remain at that level throughout the remainder of the project.



B. Remaining Timetable

As of the beginning of Phase IX of the Ash Tree Management Strategy, an estimated 28,580 ash trees remain slated for removal across nine towns in Onondaga County. A schedule for the removal of those trees has been established by OCSWCD with a tentative end date sometime in 2029 upon completion of Phase XV of the project, which is in line with the revised fifteen year forecast for completion of the project. Around 2,000 more non-ash trees are scheduled to be planted. Those will be carried out incrementally through the end of the project. Ash tree inoculations are scheduled to continue at their current rate through 2039.

Table 5 – Projected Costs in Remaining Phases

Phase	IX (‘22-‘23)	X (‘23-‘24)	XI (‘24-‘25)	XII (‘25-‘26)	XIII (‘26-‘27)	XIV (‘27-‘28)	XV (‘28-‘29)
Removals	\$351,126	\$554,360	\$561,723	\$538,814	\$545,884	\$521,748	\$528,463
Injections	\$18,874	\$33,890	\$19,440	\$34,907	\$20,023	\$35,954	\$20,624
Plantings	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Overhead	\$135,000	\$141,750	\$148,838	\$156,279	\$164,093	\$172,298	\$180,913
Budget	\$525,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000
Removals (cumulative)	\$351,126	\$905,486	\$1,467,209	\$2,006,022	\$2,551,906	\$3,073,654	\$3,602,117
Project (cumulative)	\$525,000	\$1,275,000	\$2,025,000	\$2,775,000	\$3,525,000	\$4,275,000	\$5,025,000

C. Cost Projection

The entire cost for the remainder of the initial fifteen year timetable of the Ash Tree Management Strategy has been projected to be \$5,025,000. Included in this estimate are the projected costs for tree removals, tree injections, tree plantings, and overhead. Not included in this projection are the years of

tree injections that will continue after the initial fifteen year timetable through 2039. These costs are projected to remain in line with yearly costs for tree injections to date, which range between roughly \$15,000-35,000 depending on the number of trees to be injected that year.

Table 6 – Projected Remaining Tree Removals

Location	Estimated Removals	Estimated Cost
Lysander	2,274	\$192,400.00
Pompey*	972	\$148,767.00
Elbridge	1,778	\$207,864.00
Marcellus	1,671	\$166,189.00
Fabius*	402	\$44,109.00
Tully	714	\$47,161.00
Otisco	853	\$68,972.00
Spafford	1,483	\$178,422.00
Skaneateles	765	\$81,885.00
Pratt's Falls*	559	\$80,822.00
Onondaga Lake Park*	3,696	\$360,279.00
Jordan Level Trail	1,175	\$123,678.00
Highland Forest*	10,929	\$1,723,974.00
Beaver Lake	1,309	\$161,602.00
All Remaining Locations	28,580	\$3,586,124.00

* denotes where ash tree removals are currently ongoing

D. End Date

The end date of the Ash Tree Management Strategy is projected for the end of Phase XV, which ends on May 31st, 2029. This is considered tentative however, as the threat of a resurgence in the COVID-19 virus would threaten to bring progress to a halt for a time, as it did during Phase VII.

Furthermore, the number of trees identified for removal may yet increase. OCSWCD has observed many trees which were not large enough to be inventoried at the time of the initial Inventory (saplings), or which were not present altogether (seedlings), grow to such a height as to necessitate removal. It has also observed some “stump sprouts” that may need to be removed before the completion of the project.

Such considerations may necessitate an additional Phase be added after the tentative end date to reckon with such newcomers. As of Phase IX however, this is not expected to be necessary by OCSWCD, and any additional Phase would be extremely brief. Any remaining trees would be relatively small in both number and size, and would not require the level of work that was required for the removal of the pre-existing ash trees.



IV. REFERENCES

Onondaga County Ash Tree Management Strategy. (2014).

Onondaga County Ash Tree Management: Project Status and Plans for Phase IX (2022-2023).

(2022, June 8). Onondaga County Soil and Water Conservation District.

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