

Good News about Springfield Trees: Results from the 2022 Partial Tree Inventory



Springfield Urban Forestry Commission

What is a Tree Inventory?

In a professional tree inventory, a trained arborist examines each tree in a given area to record the following data electronically: 1) coordinates (location), 2) site (further location), 3) tree status (active tree, stump, planting space), 4) species, 5) (tree) stems, 6) DBH (diameter at breast height), 7) condition, 8) arborist recommendation (with explanation), 9) land use, 10) growing space, 12) risk level (possible risk to people or property), and 13) arborist’s comments.

Why does Springfield Need a Tree Inventory?

Springfield’s urban forest is a significant city asset. This partial inventory – representing 15% of the City’s trees—assessed this portion of the urban forest at an estimated standing value of \$11 million, and determined this section of the forest provides an estimated annual benefit of \$350,000 to the city. Up until now, the city has lacked basic data on this part of its green infrastructure. The inventory provided necessary information for managing the city’s current tree population (the number of trees), their diversity (the various species represented), their condition (age, health), and the benefits they provide (cooling neighborhoods, retaining storm water, among others). The data allows the city and its arborist to make informed decisions in managing the urban forest, for example, in deciding what species of trees should be planted to ensure forest diversity and what trees need pruning or removal.

Springfield’s 2022 Tree Inventory of the Northeast Quadrant

In the spring of 2022, a partial tree inventory of public trees was conducted in Springfield’s Northeast Quadrant, funded by a grant from the U.S. Forest Service and the Illinois Department of Natural Resources. A ‘public tree’ in this inventory is one owned by the City of Springfield – trees located on a city right of way and other city property. It did not cover privately-owned trees, those in parks (owned by the Park District), or those on State property, such as the Fairgrounds or State Capitol. Note that this inventory surveyed only about 15% of Springfield’s public trees. The city plans to inventory the rest of its trees in the future.

This publication summarizes the inventory findings. For additional information, consult the Springfield Urban Forestry Commission’s website, at www.Springfield.il.us/UFC.

Springfield’s Inventoried Urban Forest*: At a Glance

Total Number of Trees	3,580
Open Planting Spaces	761
Stumps	53
Total Number of Species	79

Annual Benefits Provided \$411,131/year

Standing Value \$11,137,100

*Note that the inventoried trees make up only 15% of Springfield's urban forest and were located in only one city quadrant (Northeast).

Inventoried Tree Diversity—79 Different Species

Maples	1,224/34%
Oaks	292/8%
Sweetgum	257/7%
Crab apple/apple	206/6%
Callery Pear	183/5%

Total Annual Benefits of Inventoried Trees

<u>Benefits</u>	<u>Total \$ Benefits</u>	<u>\$ Benefit per tree</u>
Energy	50,249	\$14.04
CO2	13,483	\$3.77
Air Quality	11,173	\$3.12
Storm water	167,430	\$46.77
<u>Aesthetic/Other</u>	<u>108,178</u>	<u>\$30.22</u>

Total Annual Tree Benefits \$350,512/per year \$97.91/per tree/per year

Age of Inventoried Trees

Note: The age of a tree is estimated by its size. Older trees are generally bigger trees, and the average tree grows ½" a year. The measurement of a tree is usually taken at breast height (Diameter at Breast Height, or DBH).

<u>Size</u>	<u>Number/% of Trees</u>	<u>Estimated Age Class</u>
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0"-6" DBH	437/12%	less than 15 years old
7"-12" DBH	789//20%	15-25 years old
13"-18" DBH	614/17%	25-35 years old
19"-24" DBH	459/13%	35-45 years old

Condition of Inventoried Trees**

Average Tree Condition	3.26 (well below average)
Average Mature (8" and up)	3.28 (well below average)

**Many of these trees are nearing the end of their natural lives (trees in urban settings often do less well than those in other settings). See recommendation for tree planting to ensure vibrancy of the urban forest.

Inventory Recommendations

The arborists conducting the inventory made a variety of recommendations regarding the section of the Springfield Urban Forest they examined. Some of the major recommendations are listed below:

- Increase the budget for forest management, allowing for significant tree planting, regular pruning, and removal of dead/dangerous trees.
- Plant 200 trees per year in the inventoried area.
- Improve tree diversity; more than 1/3 of the inventoried area is made up of maple trees; one genus should only make up 10% of a forest to ensure that pests/pathogens do not destroy the population.
- Carry out cyclical pruning in the inventoried area: 63% of inventoried trees require only cyclical pruning on a regular basis (this was noted as a desirable finding).
- Remove 294 trees (8% of inventoried population) at some time, remove 8 of these trees as soon as possible (note: these 8 trees have been subsequently removed); conduct a risk assessment on 14 trees to determine threat to people or property.
- Adopt a tree protection ordinance, as required by the terms of the inventory grant.

Springfield's Urban Forestry Commission

The Springfield Urban Forestry Commission (UFC) serves to advise the city on management of the urban forest. Some of the UFC accomplishments are annual Arbor Day celebrations; educational programs on trees and native plants; tree plantings; tree giveaways; securing grants; and development of an urban forest management plan. See the UFC s website, at www.Springfield.il.us/UFC for further information.