FEMC
Forest Ecosystem Monitoring Cooperative

VALUE OF PUBLIC TREES AT RISK

Invasive pests and pathogens can kill public trees, resulting in losses of critical ecosystem services, like carbon sequestration, runoff mitigation, and air pollution removal. For each invasive threat, the annual benefits provided by all potential host trees are summed into a total potential loss. In addition to the loss of benefits, the cost of replacing dead trees is estimated as the total structural cost. Together, these values can be used to weigh the potential benefit losses and costs that a municipality may incur if the invasive pest or pathogen is not contained.

MUNICIPALITY
WEST SPRINGFIELD

COUNTY
HAMPDEN

STATE
MASSACHUSETTS

POPULATION
27,899

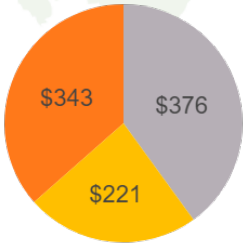
INVENTORY YEAR
2015

LEGEND

- Gross Carbon Sequestration ($/yr)
- Avoided Runoff ($/yr)
- Air pollution removal ($/yr)

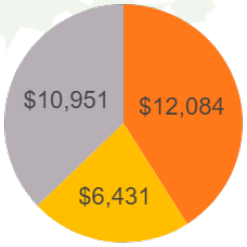
EMERALD ASH BORER

Total number of host trees [1]
199
Total annual value [2]
$939
Total structural value [3]
$610,723



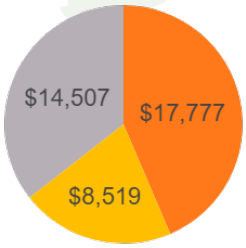
ASIAN LONGHORNED BEETLE

Total number of host trees [1]
3,870
Total annual value [2]
$29,465
Total structural value [3]
$17,502,223



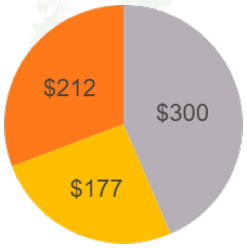
GYPSY MOTH

Total number of host trees [1]
5,825
Total annual value [2]
$40,801
Total structural value [3]
$25,017,530



HEMLOCK WOOLLY ADELGID

Total number of host trees [1]
135
Total annual value [2]
$687
Total structural value [3]
$503,830



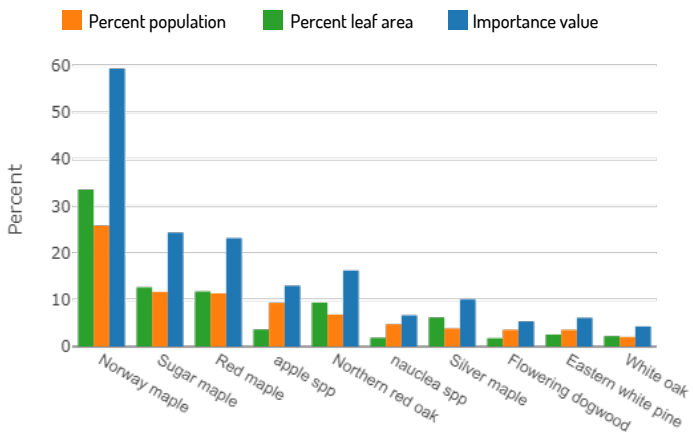
[1] Total number of host trees includes any species or genus designated as a favored or occasional host of the pest or pathogen.
[2] Total annual value is the sum of the annual valuations of gross carbon sequestration, avoided runoff, and pollution removal.
[3] Total structural value is the estimated local cost of having to replace similar trees and can be interpreted as the value at risk of being lost.

Town of West Springfield, Massachusetts (2020) West Springfield, Massachusetts Street Tree Inventory. Available online at: https://www.uvm.edu/femc/data/archive/project/West_springfield_massachusetts_street_tree_inventory

Valuations were generated with i-Tree Eco (Version 6.1.30)
Estimate generated on: 3/11/2020

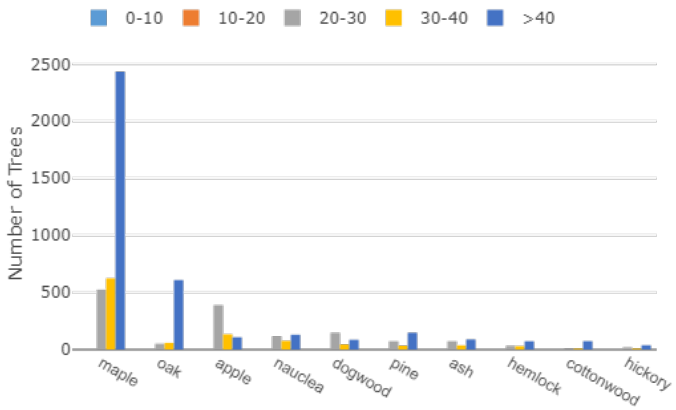
OVERVIEW OF TREE INVENTORY

THE **PERCENT POPULATION**, **PERCENT LEAF AREA**, AND **IMPORTANCE VALUE** FOR THE 10 MOST ABUNDANT TREE SPECIES IN THE INVENTORY



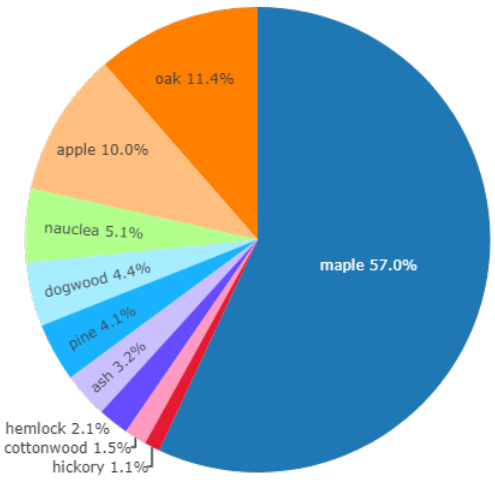
Percent population is the proportion of trees of this species relative to the entire inventory. Leaf area is a measure of a tree's canopy cover; it is displayed here per species relative to the leaf area for all of the trees in the inventory. Importance value is a measure of how dominant a species is in the urban landscape and is calculated as the sum of the percent population and percent leaf area.

DIAMETER DISTRIBUTION BY GENUS



Diameter size classes (in inches) for the 10 most abundant genera in the inventory.

PROPORTION OF TREES BY GENUS



The proportion of inventoried trees displayed by genus. For clarity, only the 10 most common genera recorded in the inventory are displayed.

For more information visit www.uvm.edu/femc/cooperative/projects/urban_pest_risk

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