# 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.

LEGEND
- Gross Carbon Sequestration ($/yr)
- Avoided Runoff ($/yr)
- Air pollution removal ($/yr)
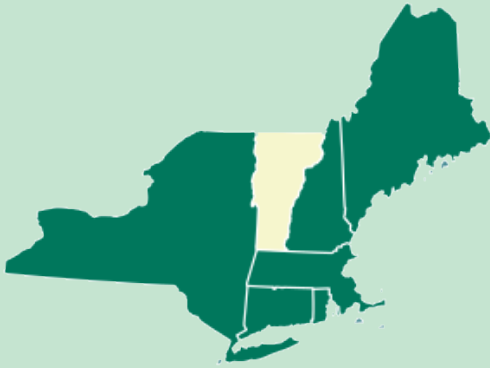
MUNICIPALITY
SOUTH BURLINGTON

COUNTY
CHITTENDEN

STATE
VERMONT

POPULATION
17,904

INVENTORY YEAR
2015

EMERALD ASH BORER
Total number of host trees [1]
34
Total annual value [2]
$39
Total structural value [3]
$21,740

$14 | $21 | $6
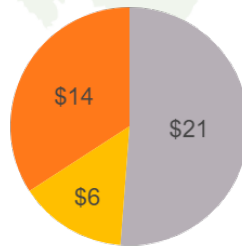
ASIAN LONGHORNED BEETLE
Total number of host trees [1]
195
Total annual value [2]
$121
Total structural value [3]
$53,106

$45 | $62 | $15
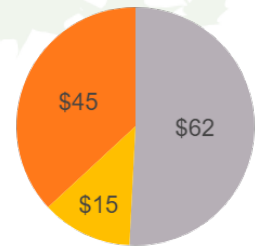
BROWNTAIL MOTH
Total number of host trees [1]
209
Total annual value [2]
$101
Total structural value [3]
$43,430

$43 | $47 | $12
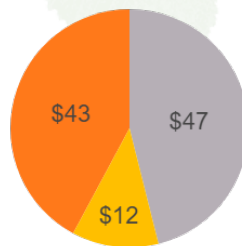
GYPSY MOTH
Total number of host trees [1]
235
Total annual value [2]
$116
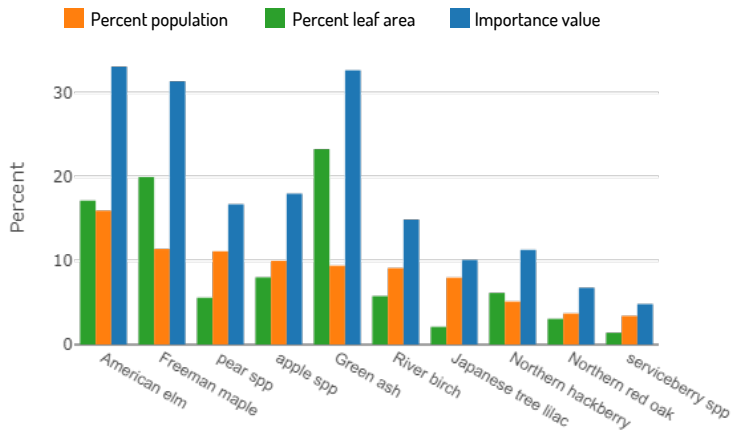Total structural value [3]
$48,642

$49 | $55 | $14
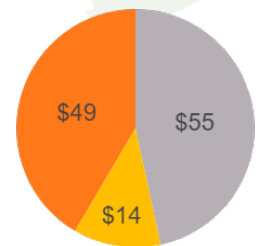
[1] Total number of host trees includes any species or genus designated as a favored or occasional host of the pest or pathogen.
[2] Total annual value is the sum of the annual valuations of gross carbon sequestration, avoided runoff, and pollution removal.
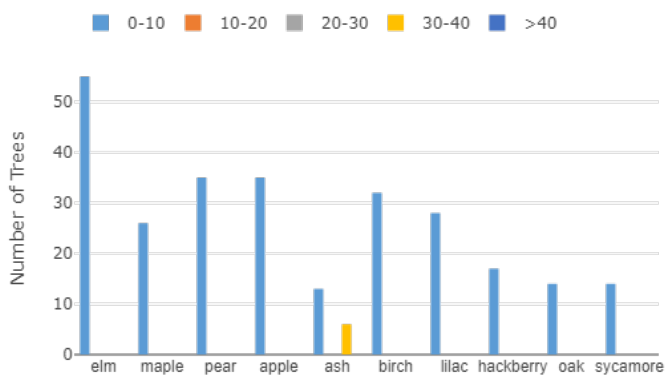[3] Total structural value is the estimated local cost of having to replace similar trees and can be interpreted as the value at risk of being lost.
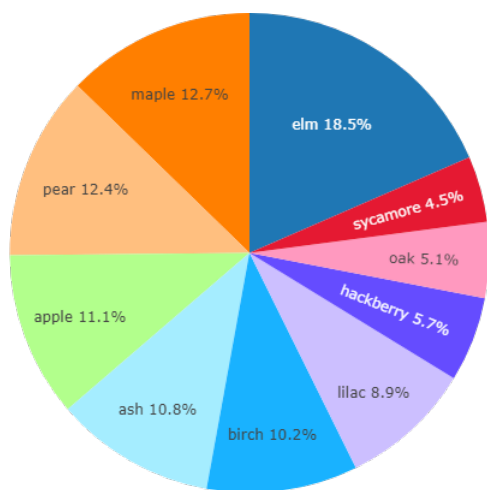
OVERVIEW OF TREE INVENTORY

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

- Percent population
- Percent leaf area
- Importance value

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

- 0-10
- 10-20
- 20-30
- 30-40
- >40

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

PROPORTION OF TREES BY GENUS

elm 18.5%
sycamore 4.5%
oak 5.1%
hackberry 5.7%
lilac 8.9%
birch 10.2%
ash 10.8%
apple 11.1%
pear 12.4%
maple 12.7%

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