

PlanIT Geo Tree Inventory Presentation Vienna, VA 6/20/2023



PlanIT GeoTM

developers of TreePlotter

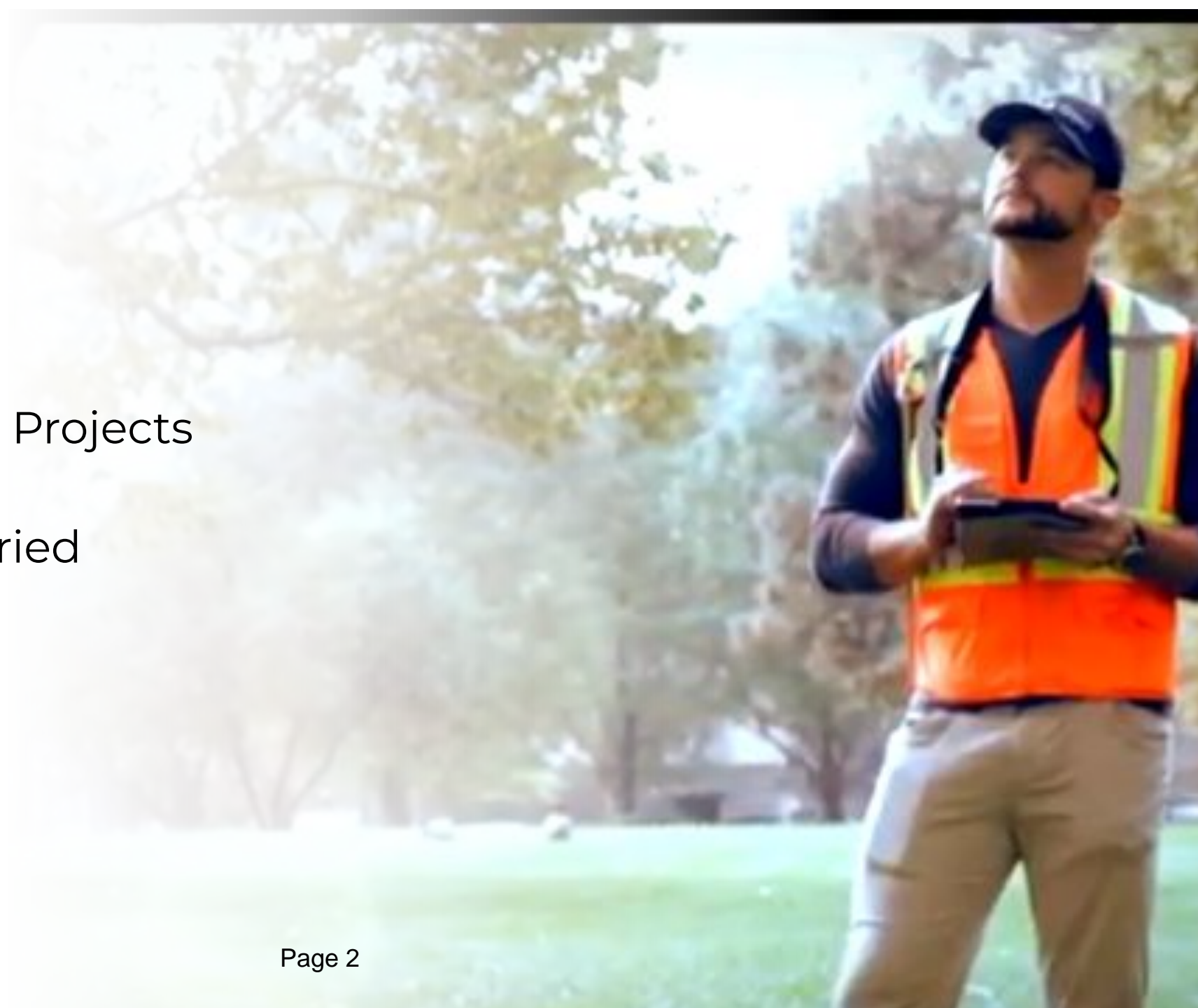
Mapping the world's
urban forests for a
greener future



— Project Manager **TJ WOOD**

Director of Field Services
PlanIT Geo, INC.

150+ In-Field Mapping Projects
15 Certified Arborists
1 Million Trees Inventoried
34 States



About Us

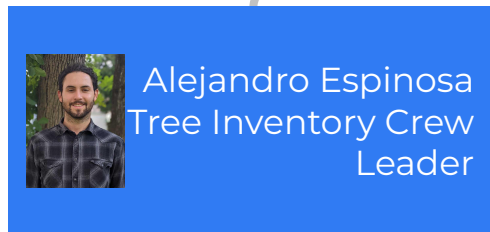
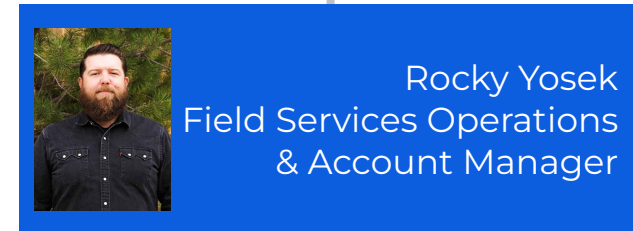
est. 2012 | 50 employees | global partners

- ❑ GIS & Mapping
- ❑ Tree Inventory and Site Analysis
- ❑ Consulting / Management Planning
- ❑ Asset and Tree Management Software



Inventory Project Team

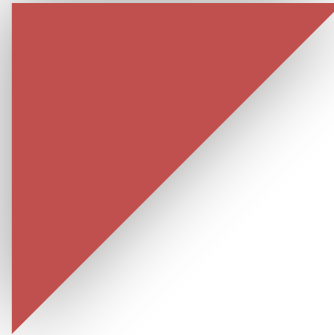
- **TJ Wood** – Tree Inventory Project Manager
- ISA Certifications and Qualifications at PlanIT Geo:
 - ISA Certified Arborists (15)
 - ISA Tree Risk Assessment Qualified (7)
 - ISA Municipal Specialists (4)
 - ISA Board Certified Master Arborist (1)



TreePlotter Software Technology



- Survey /
Inspect
- GIS
- Data Mgmt
- Reports



- View
- Plan
- Grow



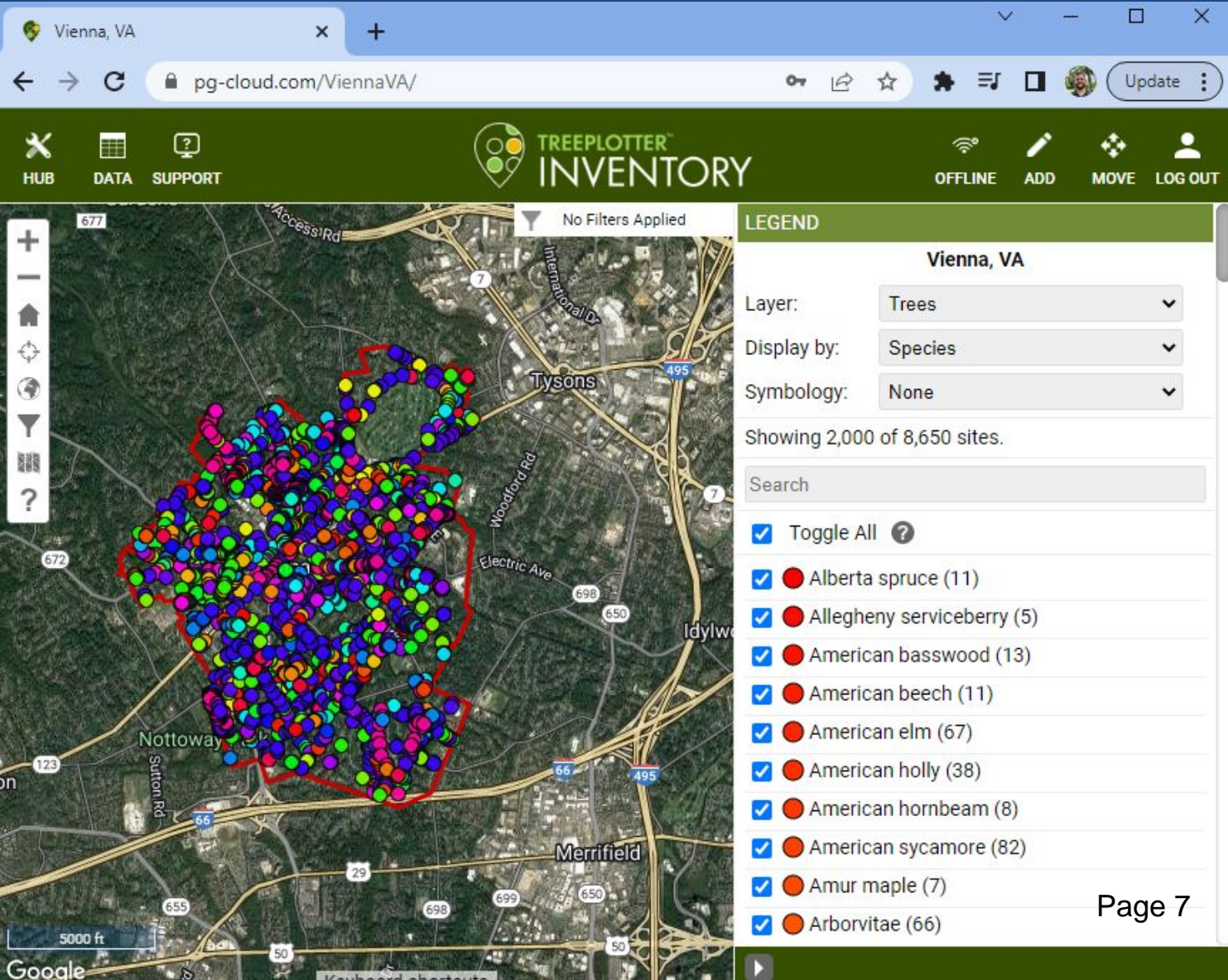
- Asset
mapping
- Inspection
- Mgmt

TreePlotterTM INVENTORY

- GIS, cloud, and browser-based
- Real-time; integrations
- Subscription-based
- Online or offline
- Customizable, configurable, user-specific
- Diverse uses/users



Tree Inventory



Street / ROW



Parks / Facilities/ Trails



Tree Inventory - Database

TREE DETAILS - 6034

TREE LOCATION MANAGEMENT RISK ASSESSMENT WORK RECORDS HISTORY

HISTORY

Primary ID 6,034

Status Alive Archived

Common Name Flowering dogwood

Scientific Name Cornus florida

Number of Stems 1

DBH 12

Tree Height (Estimated) 10

Crown Dieback None

Condition Excellent Good Fair Poor Dead

Observations Clear

☐ Canker

☒ Cavity Decay

☒ Codominant Stems

☐ Crown Dieback

☐ Deadwood

☐ Fungal growth/Fruiting bodies

☐ Girdling Roots

☐ Grate/Guard

☐ Hardscape Damage

☐ Improperly Installed

☐ Improperly Mulched

☐ Improperly Pruned

☐ Included Bark

TREE LOCATION MANAGEMENT RISK ASSESSMENT WORK RECORDS HISTORY

Tree Work Clear

☐ Amend Mulch

☐ Crown Cleaning

☐ Disease

☐ Insects

☐ Monitor

☐ Other (Describe Below)

☐ Prune-Clearance

☐ Prune-Restoration

☐ Prune-Structural

☐ Prune-Utility

☐ Raise

☐ Reduce

☒ Remove

☐ Remove Hardware

☐ Remove-Girdling Root

☐ Remove-Hanger

☐ Thin

Maintenance Comments

Wires No Lines Present / No Conflict Present and Conflicting

Clearance Conflicts Clear

☐ Building

☐ Light

☐ Other

☐ Pedestrian

☐ Sign or Signal

☐ Underground Utilities

☐ Vehicle

TREE LOCATION MANAGEMENT RISK ASSESSMENT WORK RECORDS HISTORY

Assessed Tree Part Trunk

Likelihood of Failure Probable

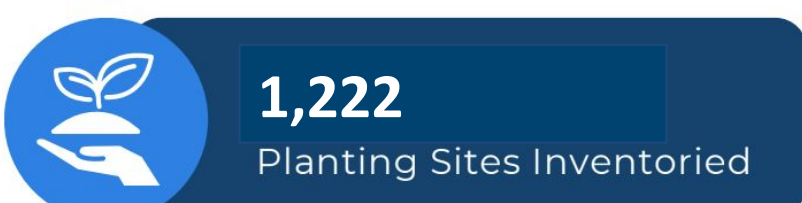
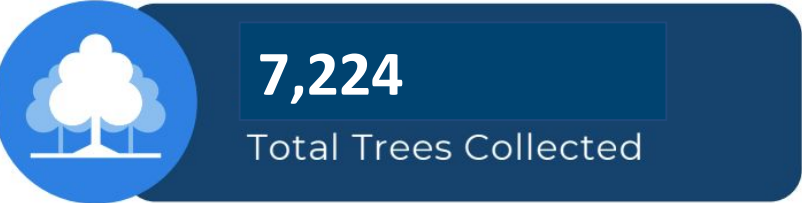
Likelihood of Impacting Target Medium

Likelihood Somewhat Likely

Consequence of Failure Significant

Risk Rating Moderate

INVENTORY RESULTS AT-A-GLANCE



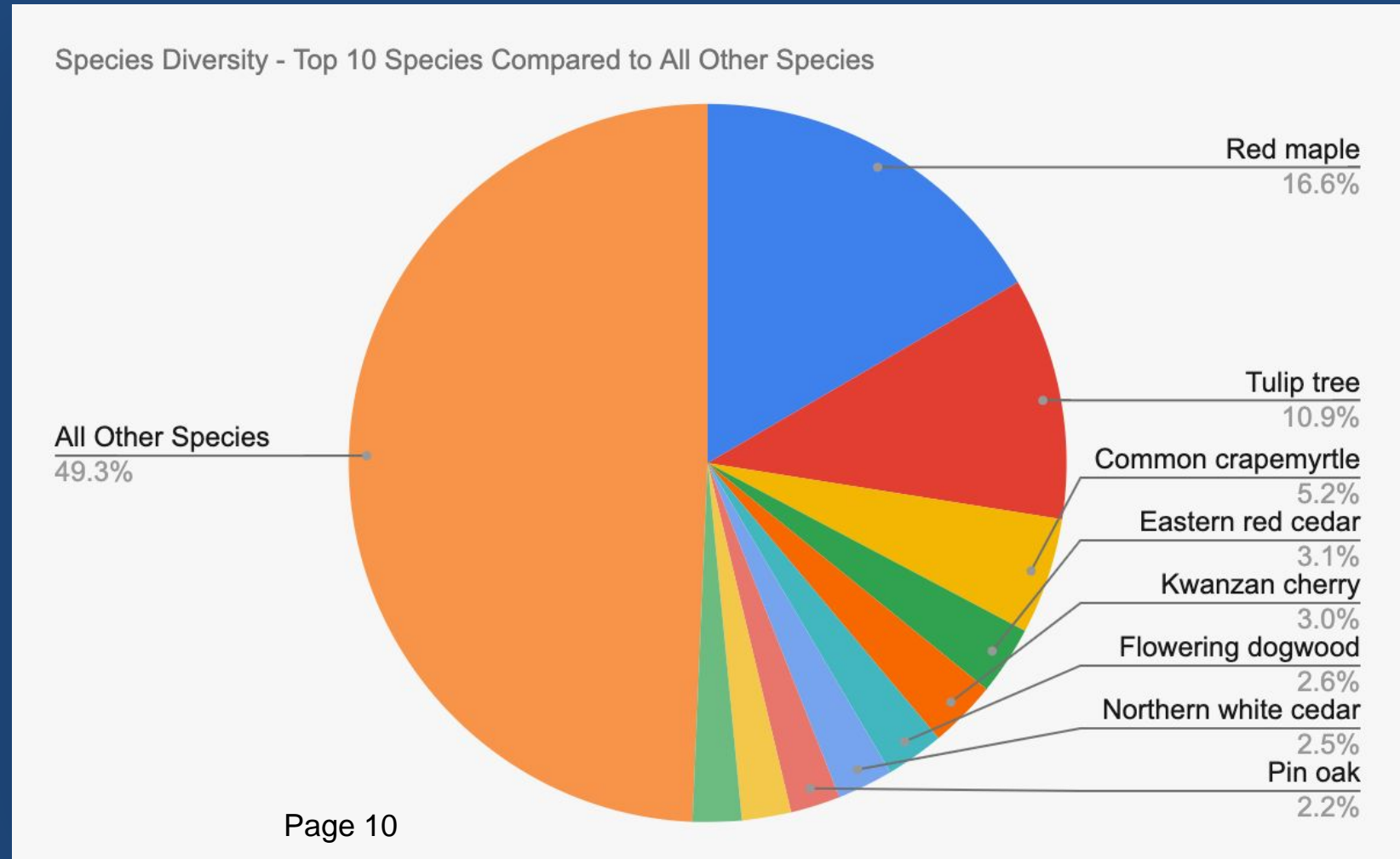
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Species Diversity

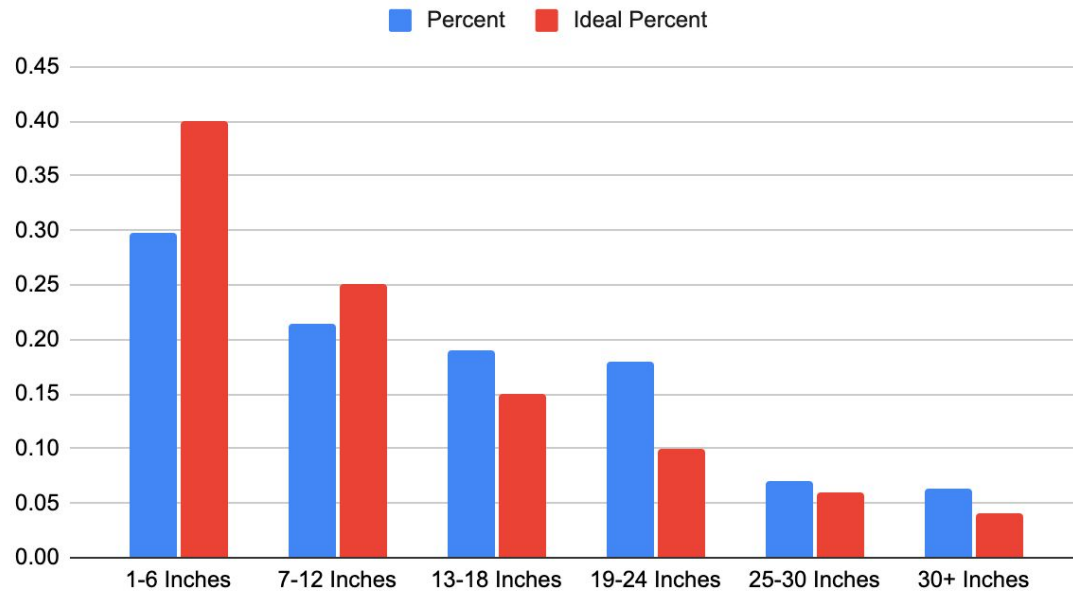
- 162 Unique Species/Cultivars

Common Name	Count	Percent
Red maple	1200	16.61%
Tulip tree	787	10.89%
Common crapemyrtle	378	5.23%
Eastern red cedar	224	3.10%
Kwanzan cherry	220	3.05%
Flowering dogwood	189	2.62%
Northern white cedar	182	2.52%
Pin oak	162	2.24%
Leyland cypress	160	2.21%
White oak	159	2.20%
All Other Species	3563	49.33%

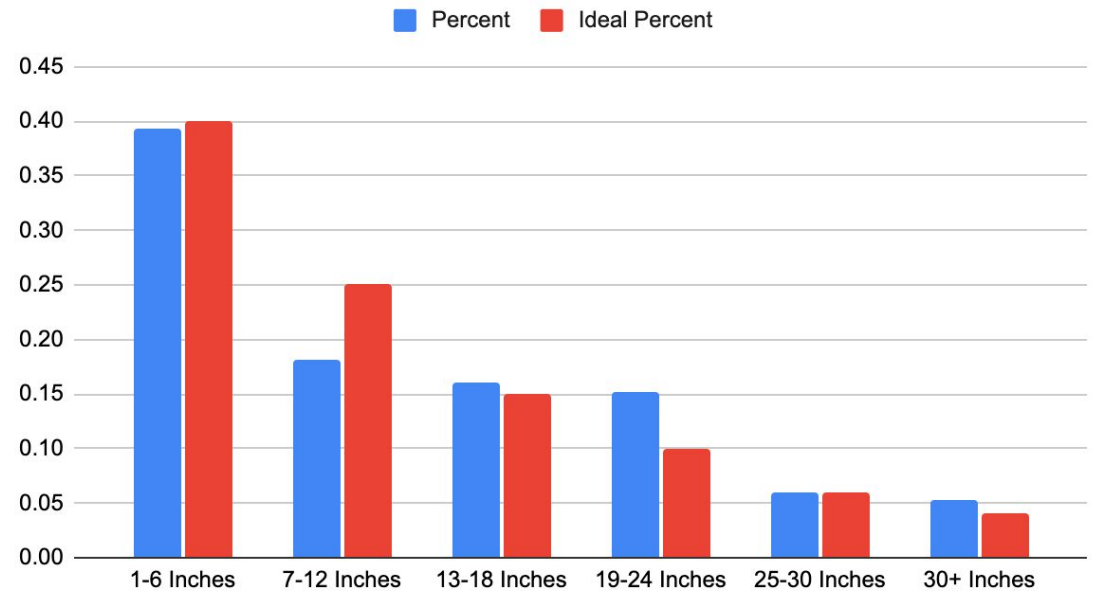


Tree Size Distribution

Size Distribution of Vienna's Urban Forest Compared to an Ideal Size Distribution

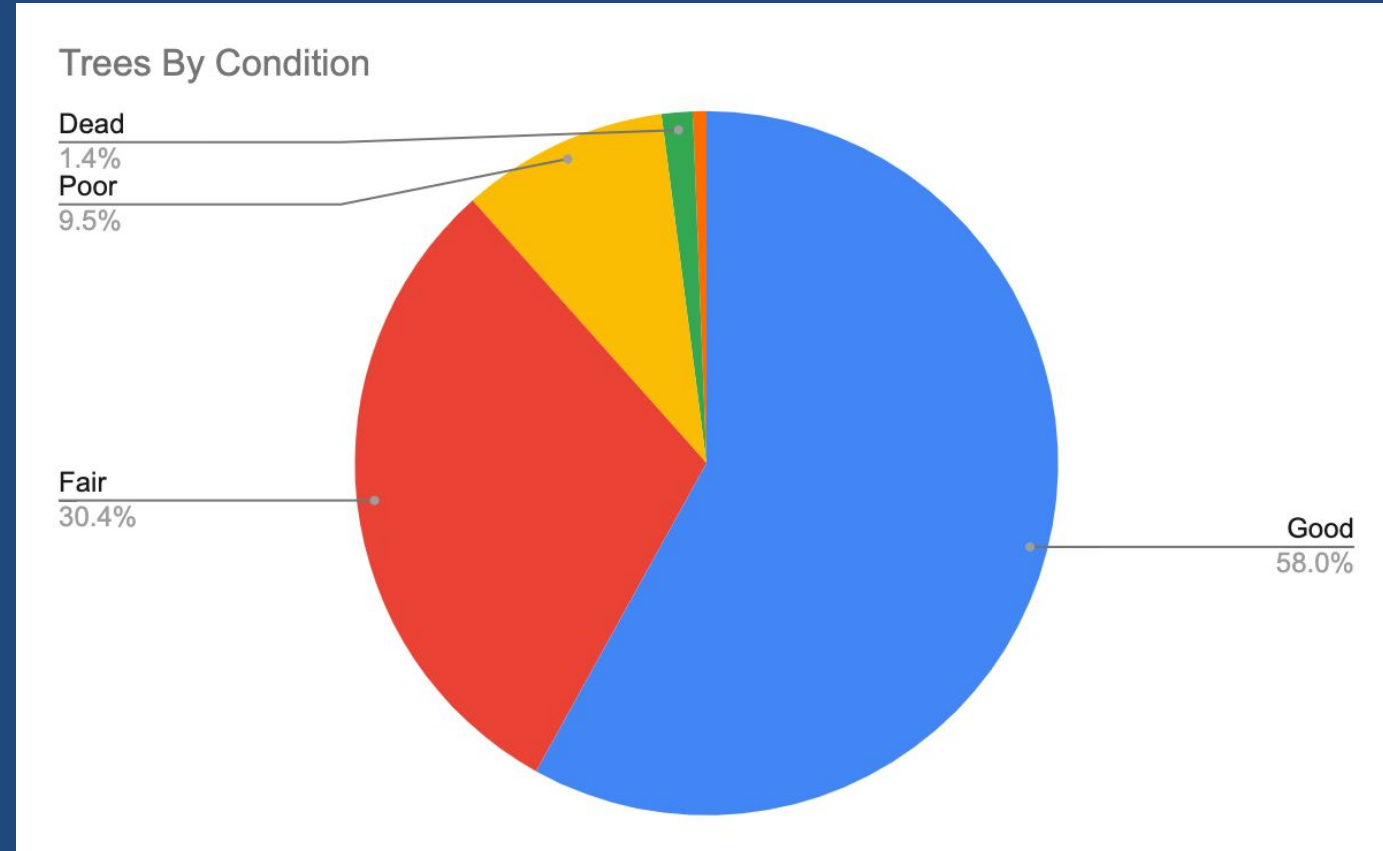


Size Distribution of Vienna's Urban Forest With Proposed Planting Sites Added



Urban Forest Health

Tulip Poplar - Highest mortality
12 trees
Red Maple - 161 trees in poor
category



Urban Forest Maintenance Needs

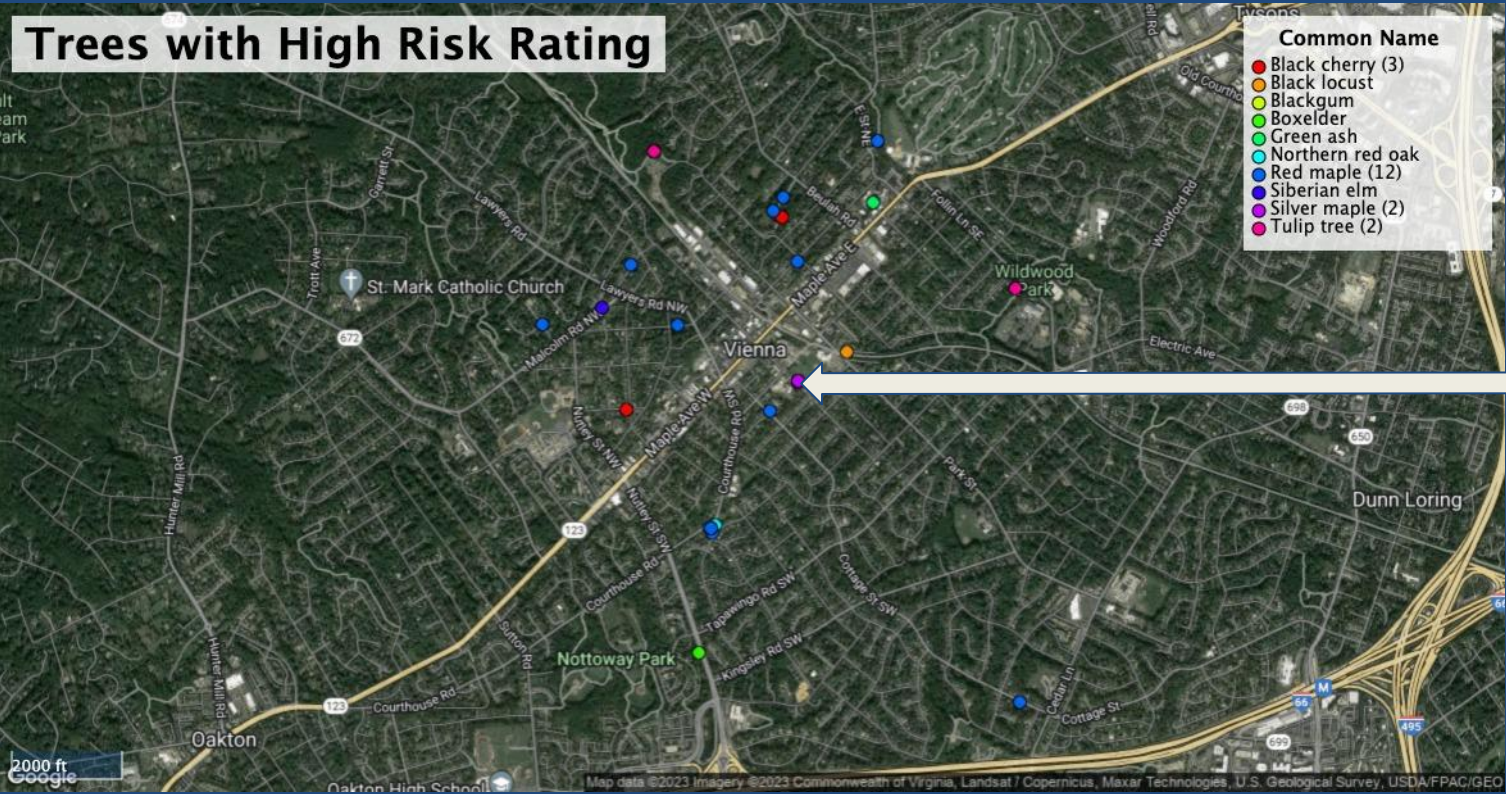
Tree Work			
PIE	BAR	TABULAR	
SHOW ALL VALUES			
Tree Work	Count	Percent	
Not Specified	3256	35.76%	
Crown Cleaning	2373	26.06%	
Prune-Structural	829	9.10%	
Prune-Utility	802	8.81%	
Prune-Clearance	554	6.08%	
Monitor	544	5.97%	
Remove	418	4.59%	
Remove Hardware	101	1.11%	
Remove-Hanger	91	1.00%	
Remove-Girdling Root	54	0.59%	
Prune-Restoration	23	0.25%	
Raise	18	0.20%	
Disease	17	0.19%	
Insects	11	0.12%	
Amend Mulch	7	0.08%	
Reduce	5	0.05%	
Other (Describe Below)	2	0.02%	
Thin	1	0.01%	

3,968 trees with maintenance needs

Risk Assessments

- 3,999 Trees
- 55% of inventory
- Less than 1% High Risk Rating

Risk Rating	Count	Percent
Low	3684	92.12%
Moderate	290	7.25%
High	25	0.63%



Urban Forest Ecosystem Benefits

ECOSYSTEM BENEFITS



Total Tree Value and Savings

Total Annual Monetary Benefit: \$41,862.65

Benefits are only calculated for trees with defined species, DBH, condition, and crown light exposure based on i-Tree research.

CARBON (LIFETIME)



Carbon Storage
9,198,703.00 (lbs) ?

CO₂ Storage
33,728,648.00 (lbs) ?

CO₂ Storage Monetary Benefit
\$784,431.00 ?

CARBON (ANNUAL)



Carbon Monetary Benefit
\$23,592.52 ?

CO₂ Sequestered
1,014,418.50 (lbs) ?

AIR QUALITY (ANNUAL)



Air Quality Monetary Benefit
\$12,262.32 ?

Pollutants Removed
5,032.18 (lbs) ?

STORMWATER (ANNUAL)



Stormwater Monetary Benefit
\$6,007.80 ?

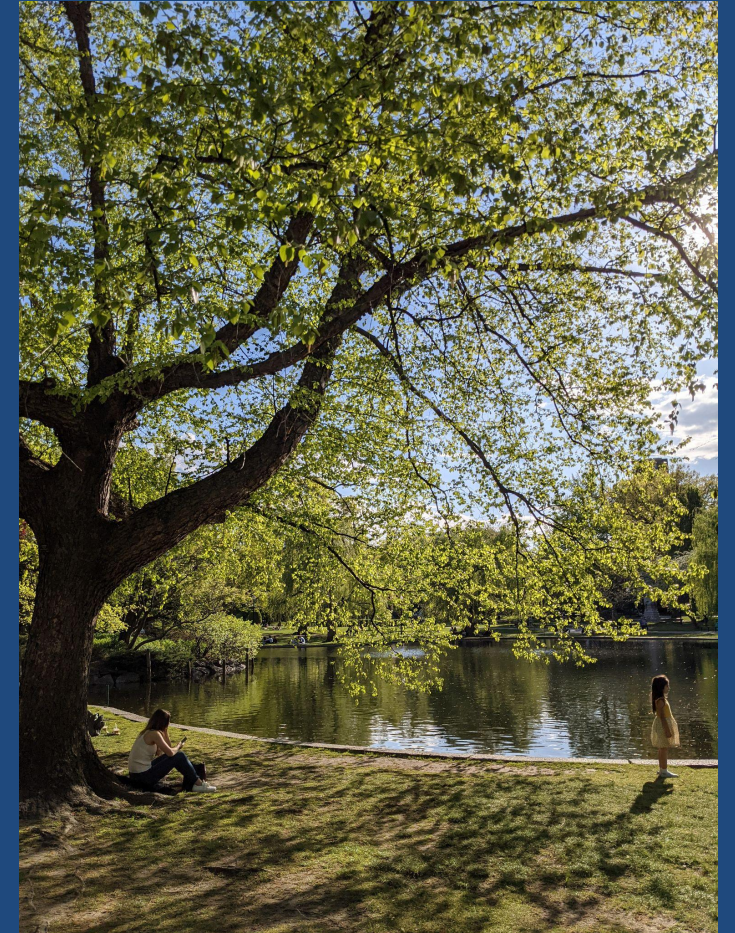
Runoff Avoided
89,875.98 (ft³) ?

Interception
727,286.20 (ft³) ?



General Recommendations

- Monitor or remove trees with a High Risk Rating (25 Trees)
- Monitor trees in poor or worse condition (689 trees)
- Conduct Structural Pruning on trees to promote a healthy structure (829 trees)
- Maintain or establish a cyclical, routine tree monitoring and maintenance schedule
- Prune trees that are conflicting with utility lines (802 trees)
- Consider pruning the 263 trees with a pedestrian clearance conflict to enhance safe walking and biking facilities.
- Remove trees that are prescribed a Removal and plant trees after removal.
- Consider removing the stumps inventoried and replanting a tree
- Plant trees in Proposed Planting Sites
- Educate the community about the tree inventory population, the associated benefits, and the tree management program
- Continue to track maintenance, plantings, and removals in the TreePlotter application



Resources

Better Your Technology. Better Your
Urban Forest

1. [Planitgeo.com](https://planitgeo.com)
2. [Support.TreePlotter.com](https://support.treeplotter.com)
 - i. Videos
 - ii. FAQs
3. Vienna TreePlotter App:
pg-cloud.com/ViennaVA



PLANIT GEOTM
mapping a greener future

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