



***Town of Amherst  
Street and Park Tree Inventory***

*Completed by: Davey Resource Group*



## Sites Included in the Inventory:

- Trees, planting sites and stumps



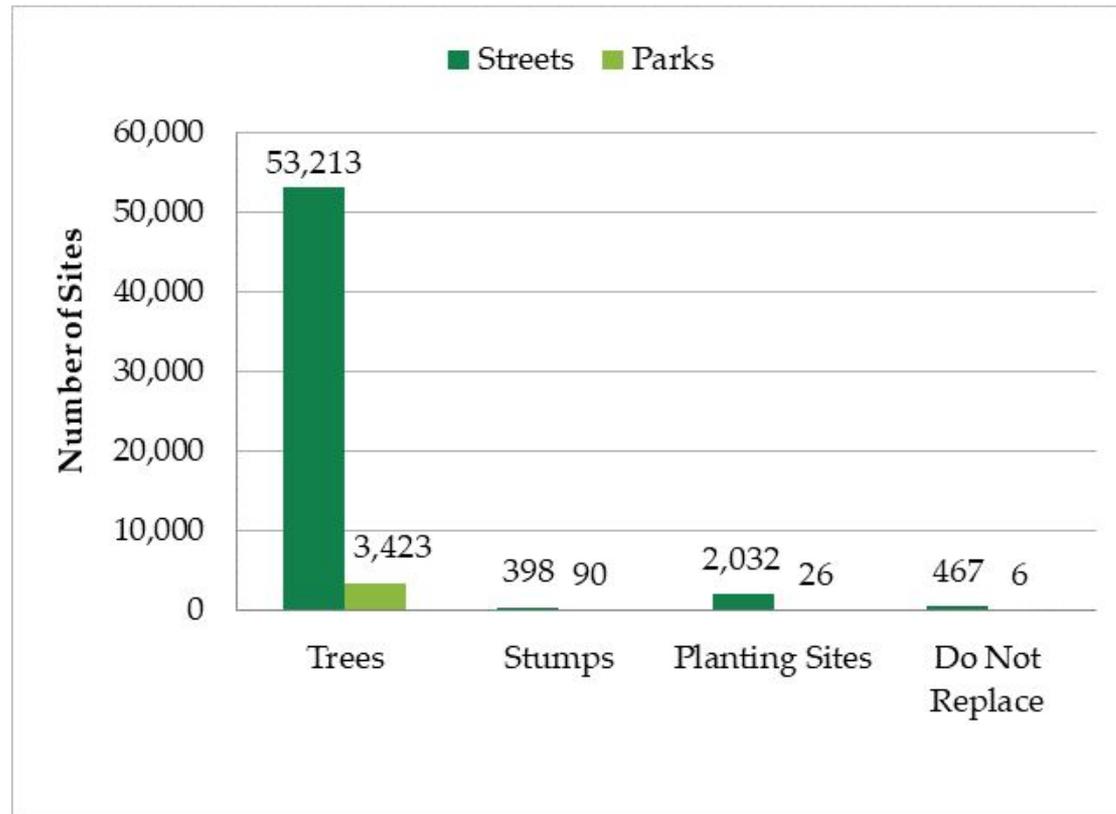
## Data Fields

Location (Address)	Risk Assessment
GPS X and Y	Risk Rating
Species	Further Inspection
Diameter at Breast Height (DBH)	Defects
Tree Condition	Stems
Primary Maintenance Need	Grow Space

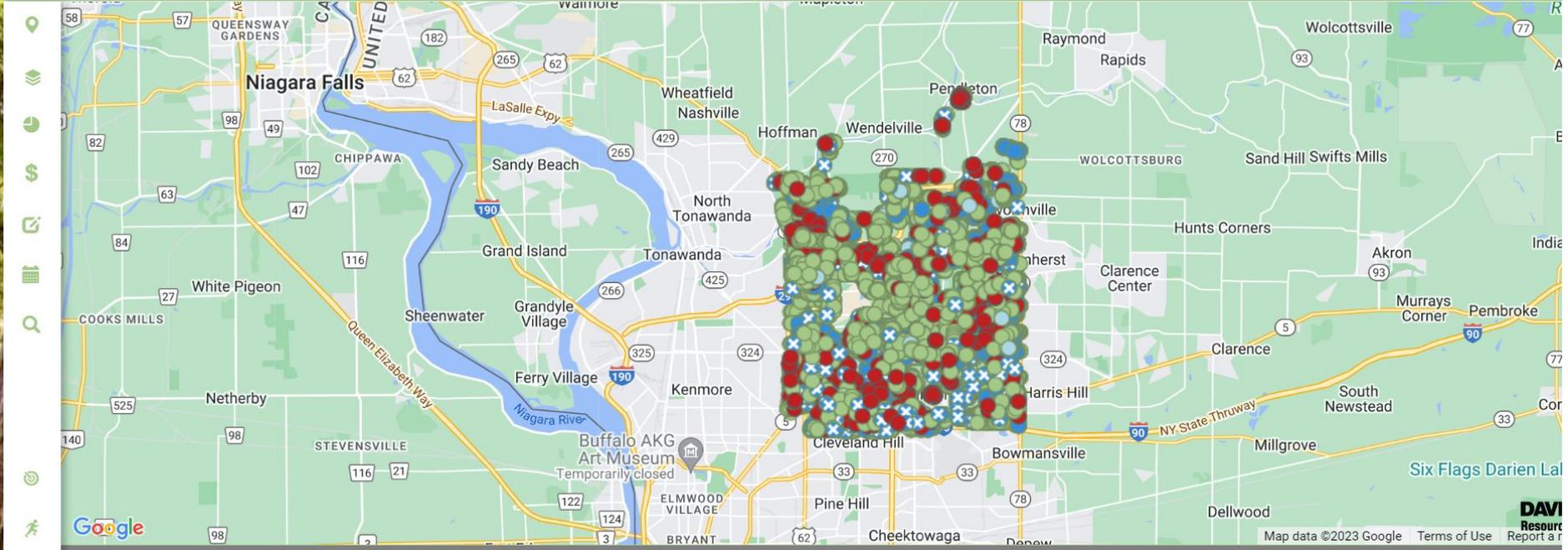
**Data Collection: 2022 and 2020**

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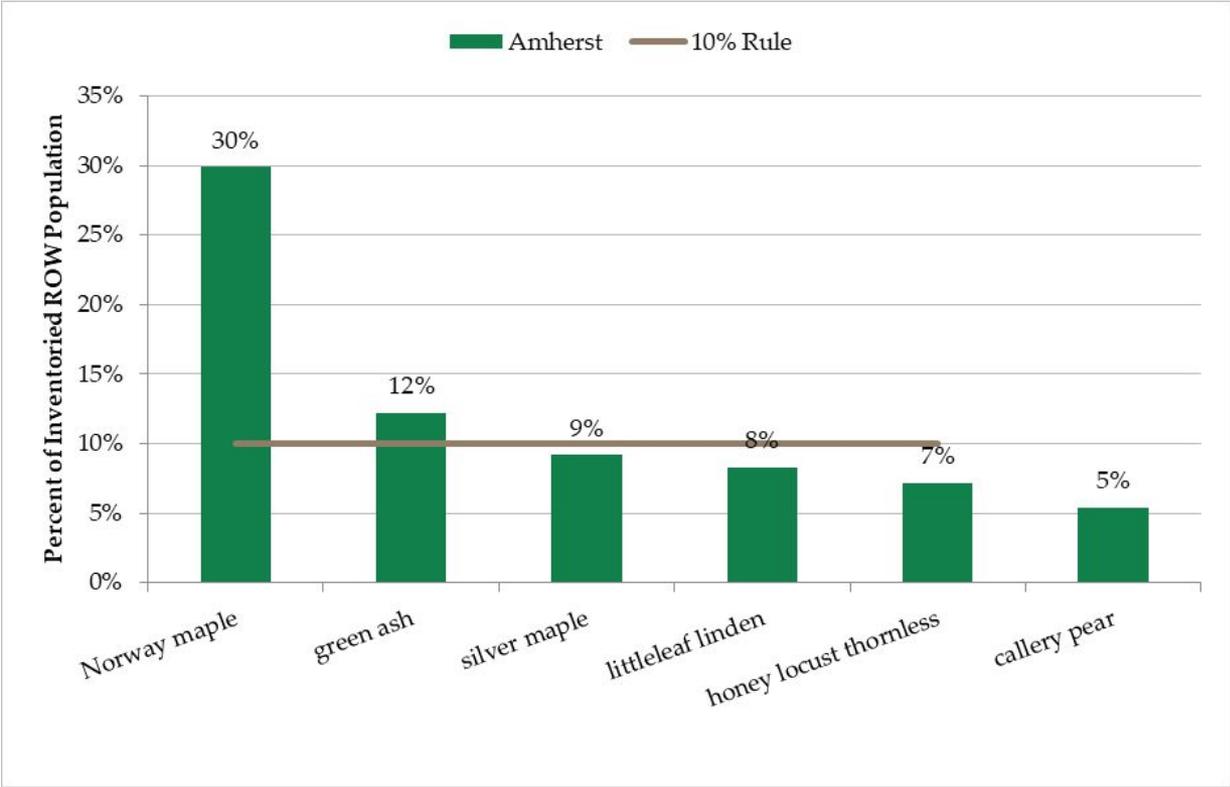


**Data Collection: 2020 and 2022**

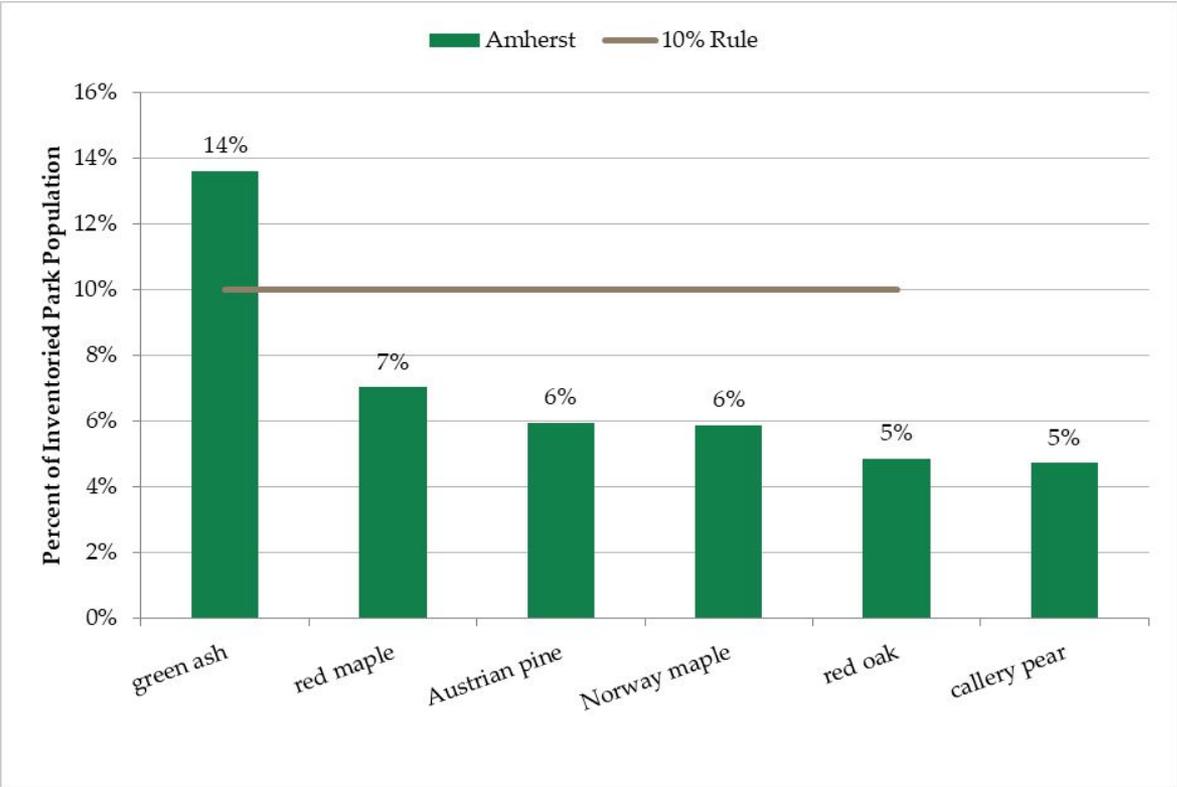


<https://amherstny.treekeepersoftware.com/>

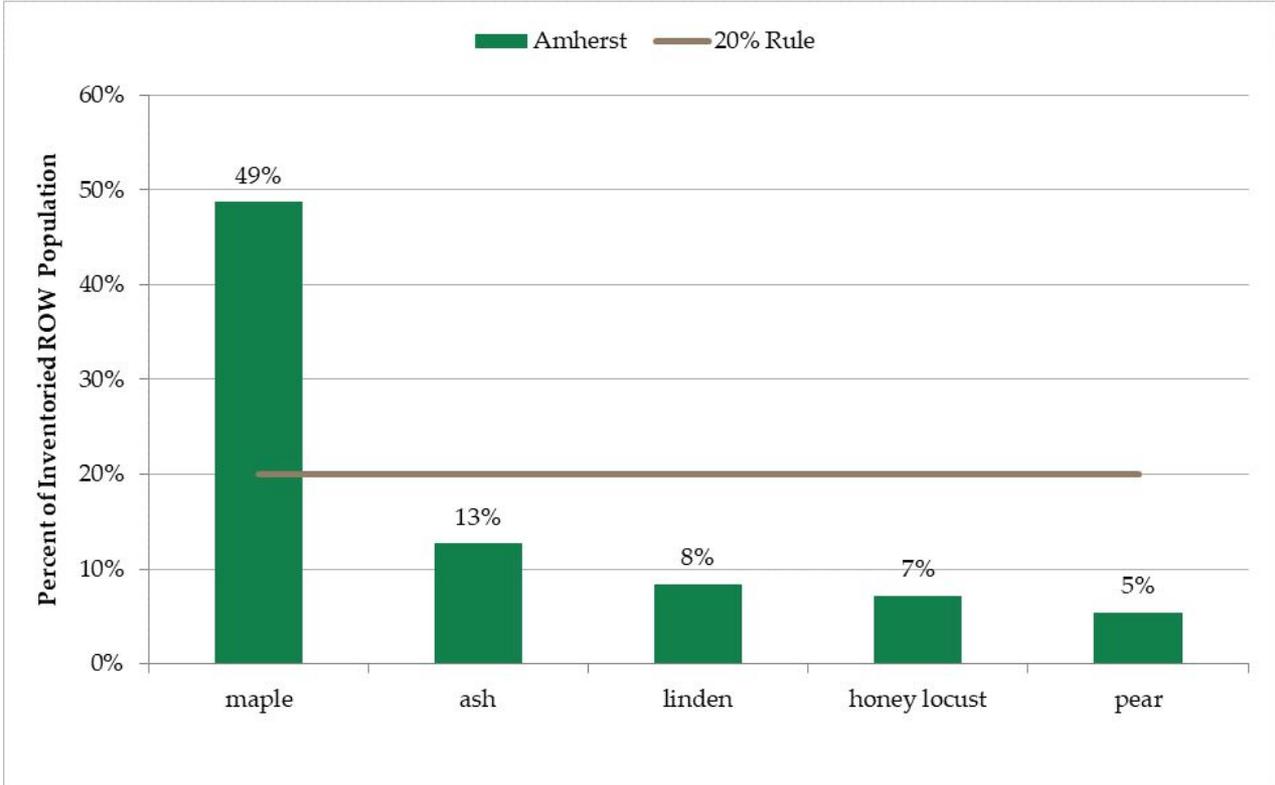
# Species Diversity



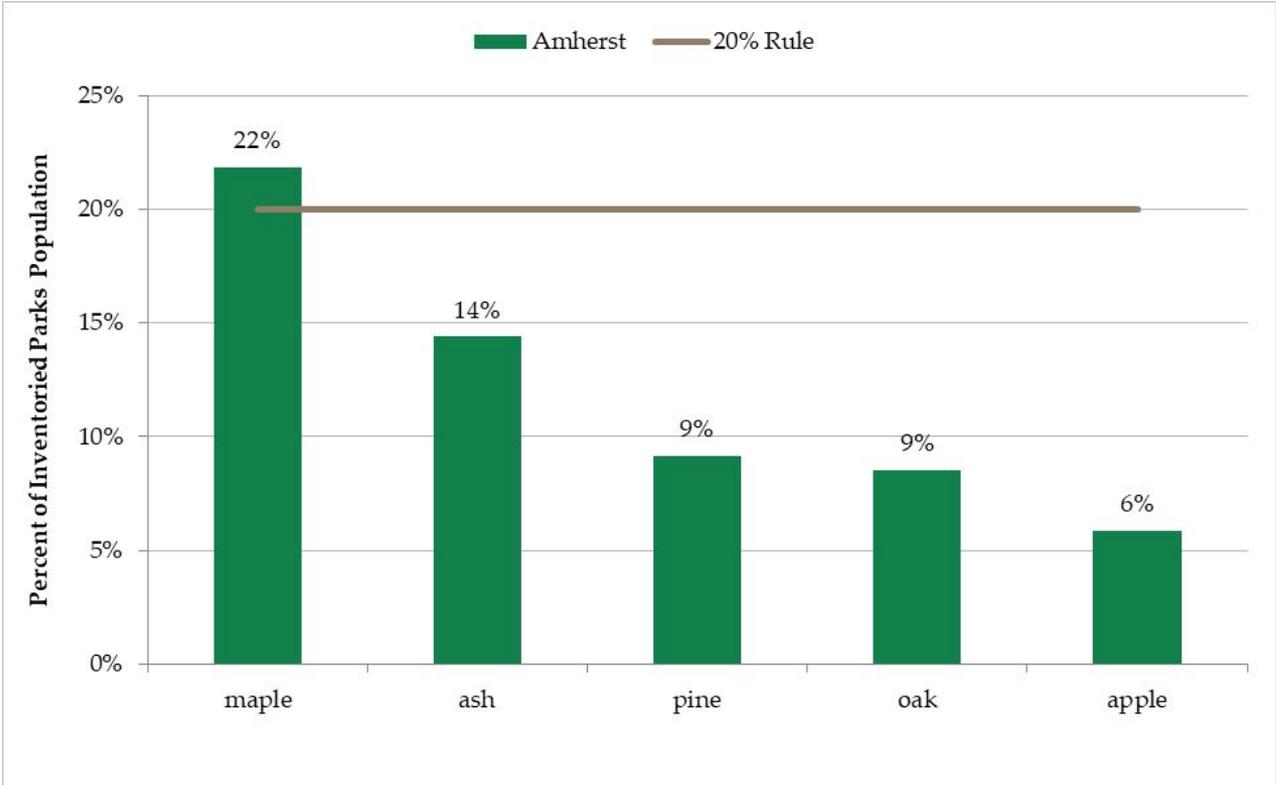
# Species Diversity



# Genus Diversity

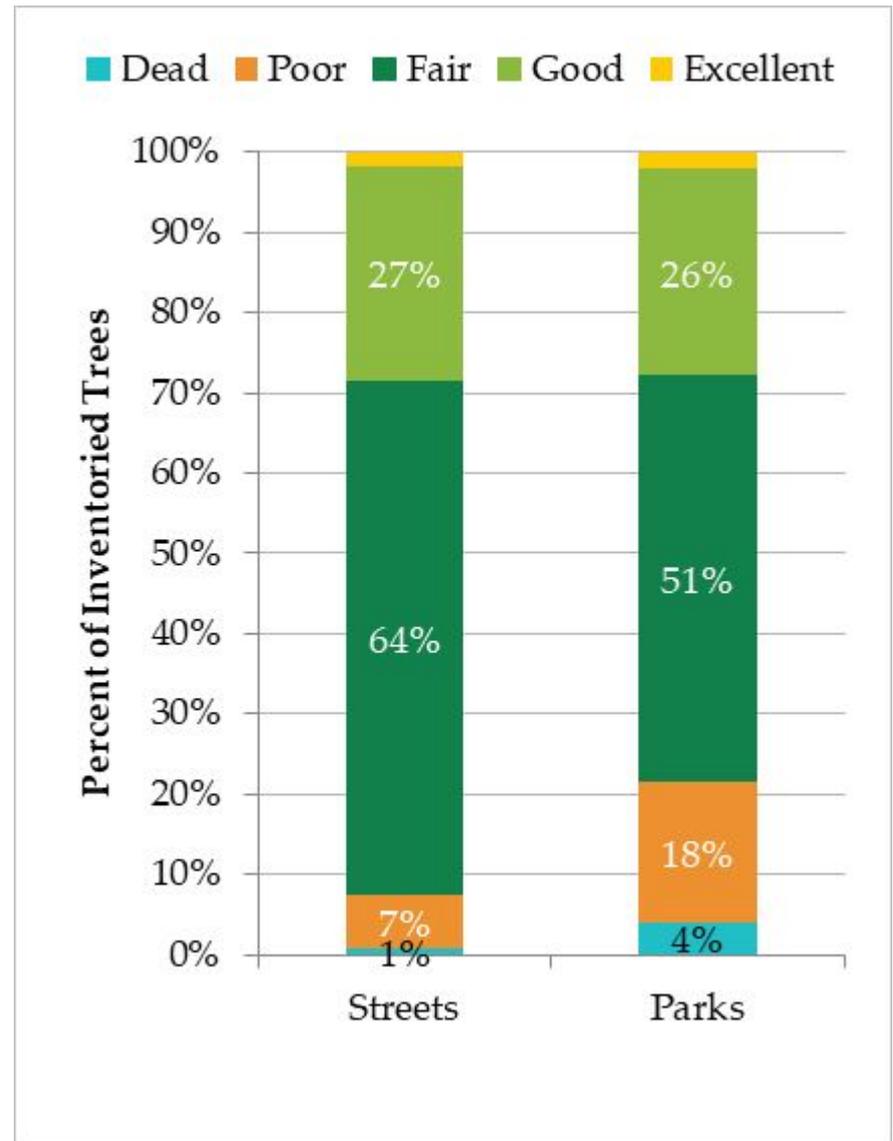


# Genus Diversity



# Tree Condition

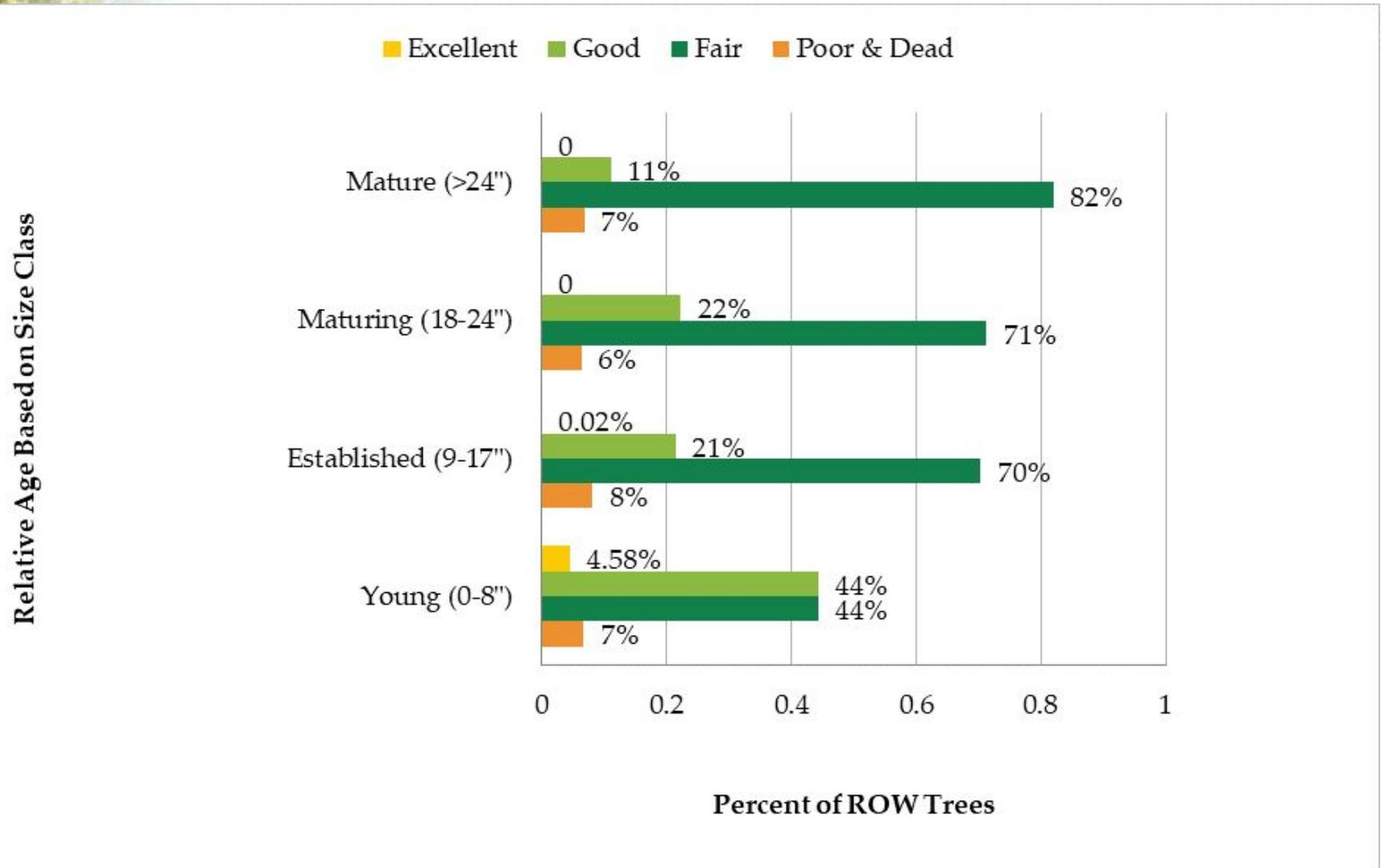
- Fair trees make up 64% and 51% inventory
- Poor to Dead make up 8% and 22%



# Diameter Class Distribution



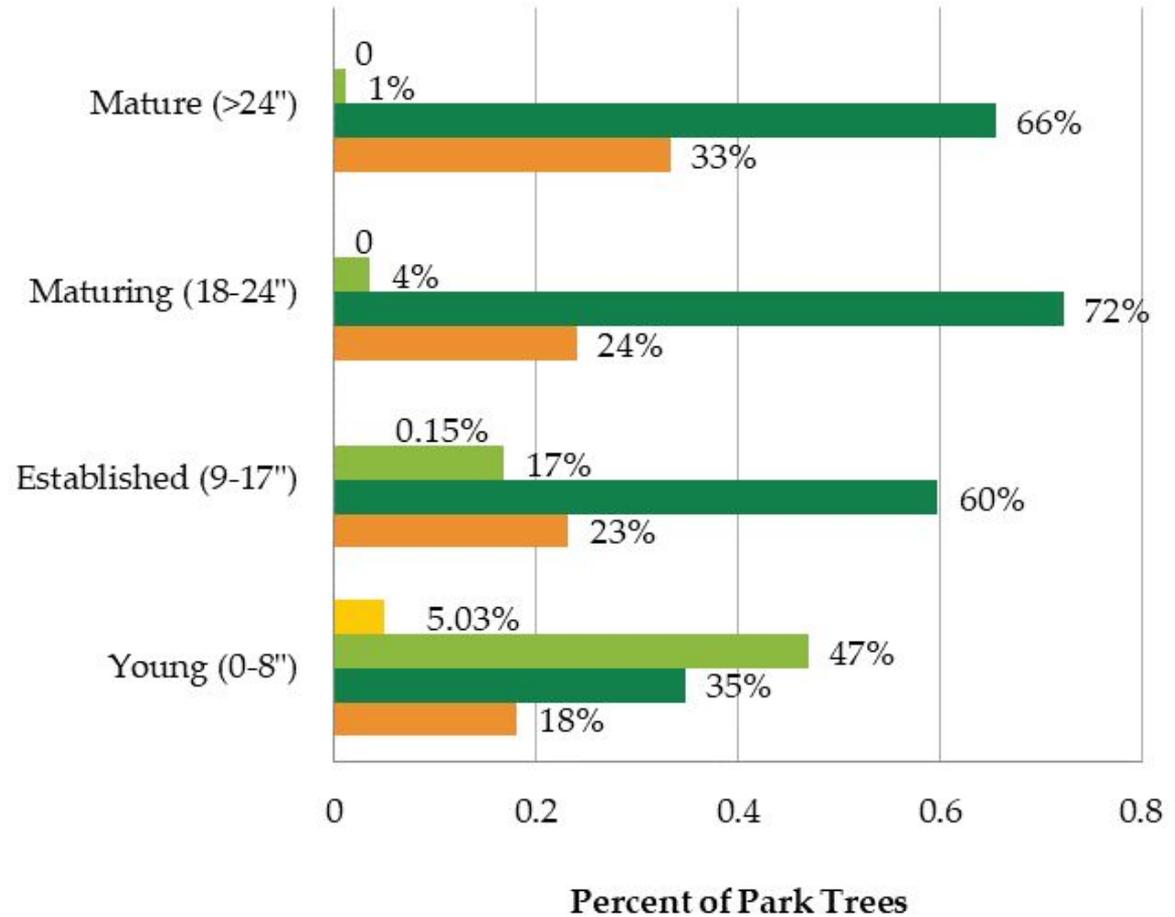
# Tree condition by relative age



# Tree condition by relative age

Relative Age Based on Size Class

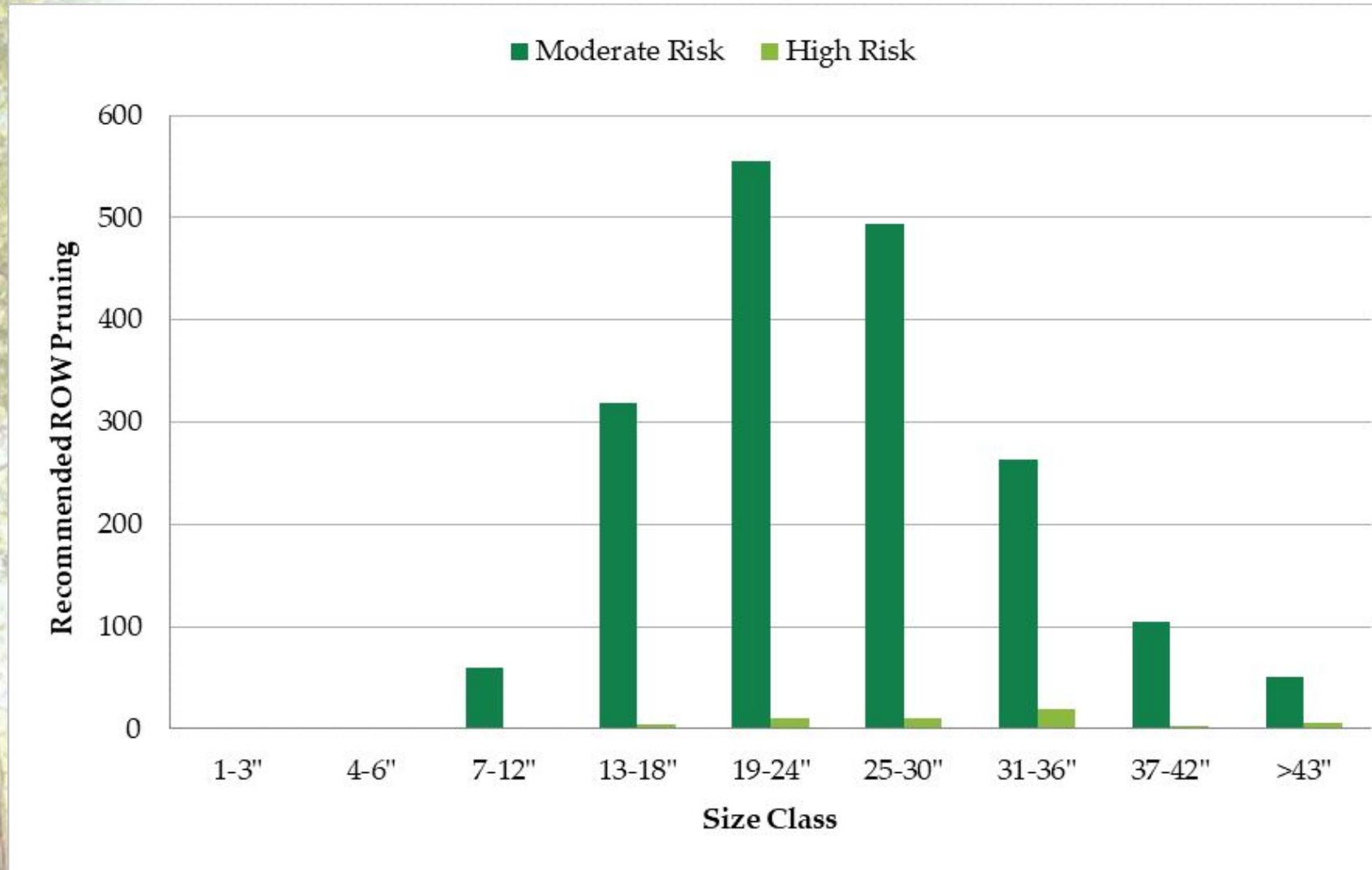
Excellent Good Fair Poor & Dead



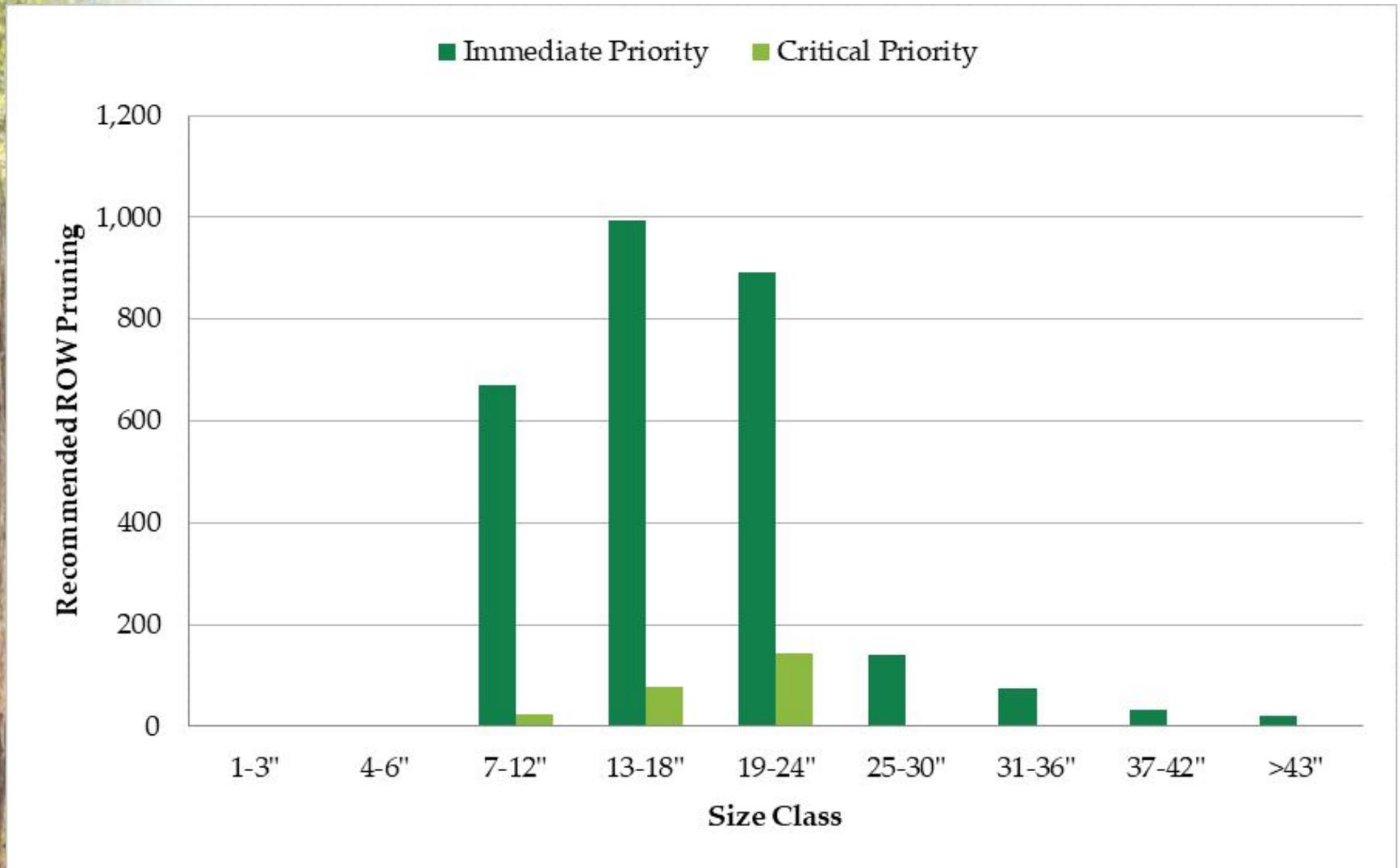
# Defect Types

Defect	Street Trees	Percent of Street Trees	Park Trees	Percent of Park Trees
Cavity/Decay	11,906	22%	557	16%
Codominant Leader	8,738	16%	654	19%
Deadwood	16,779	32%	1,509	44%
Fire Hydrant	60	0%	0	0%
Grate/Guard	3	0%	0	0%
Included Bark	6,516	12%	299	9%
Mechanical Damage	2,558	5%	54	2%
Mulched Improperly	131	0%	2	0%
None	2,759	5%	193	6%
Other	2,198	4%	73	2%
Pest Problem	149	0%	44	1%
Planted Improperly	68	0%	0	0%
Poor Location	290	1%	20	1%
Pruned Improperly	315	1%	10	0%
Reinspect	43	0%	0	0%
Root Problem	533	1%	8	0%
Underground Utilities	167	0%	0	0%

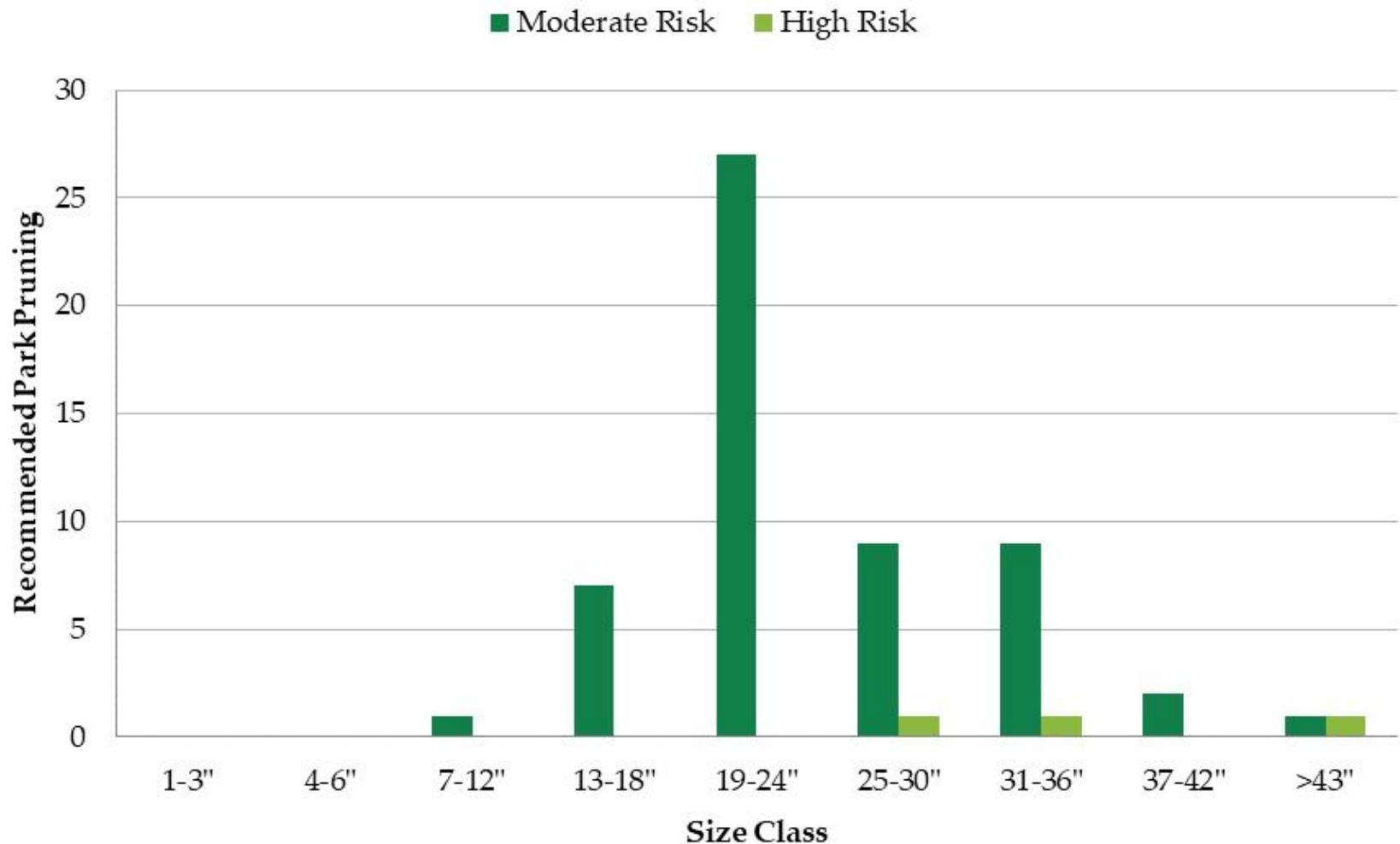
# Tree Prunings by Risk Rating



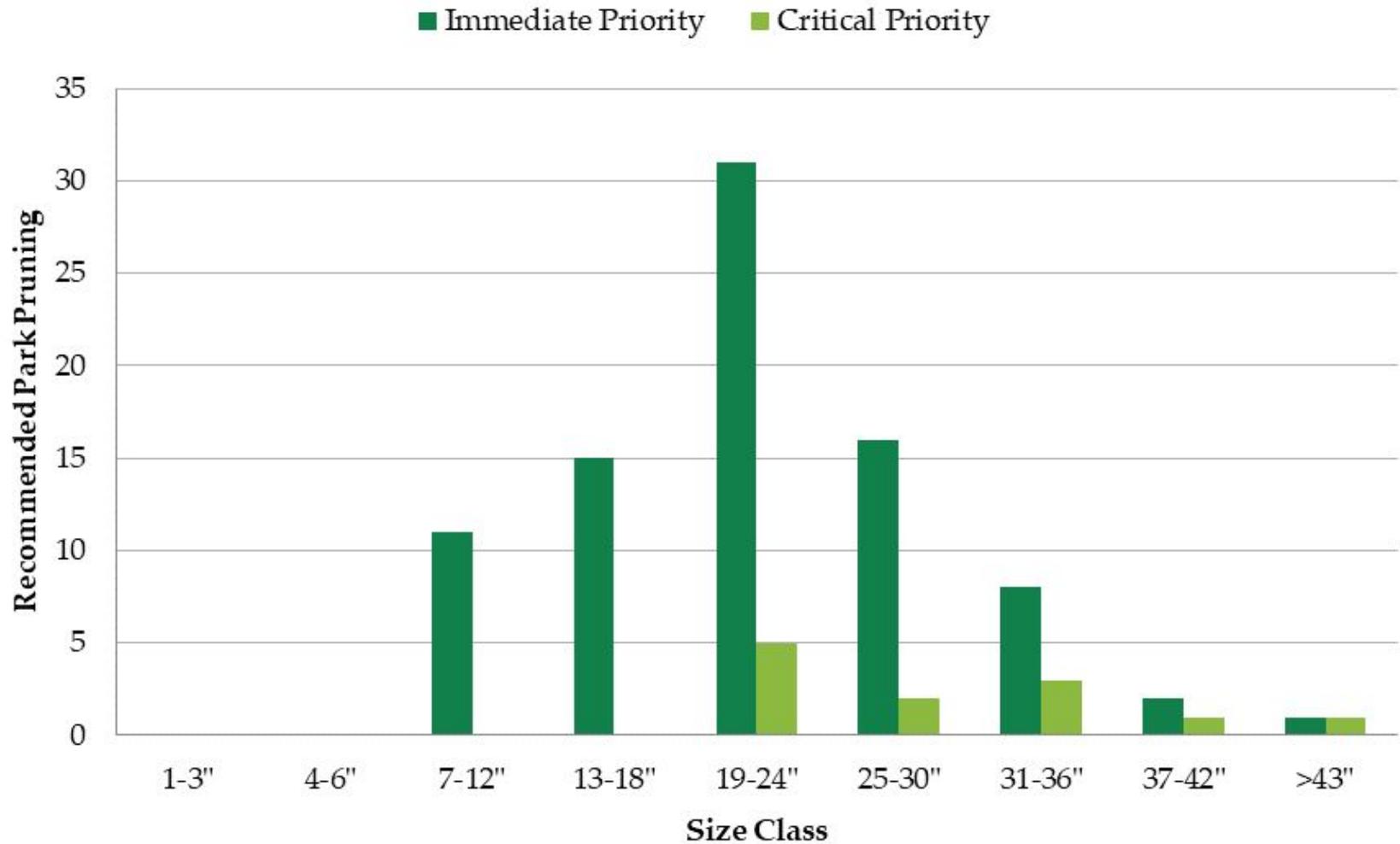
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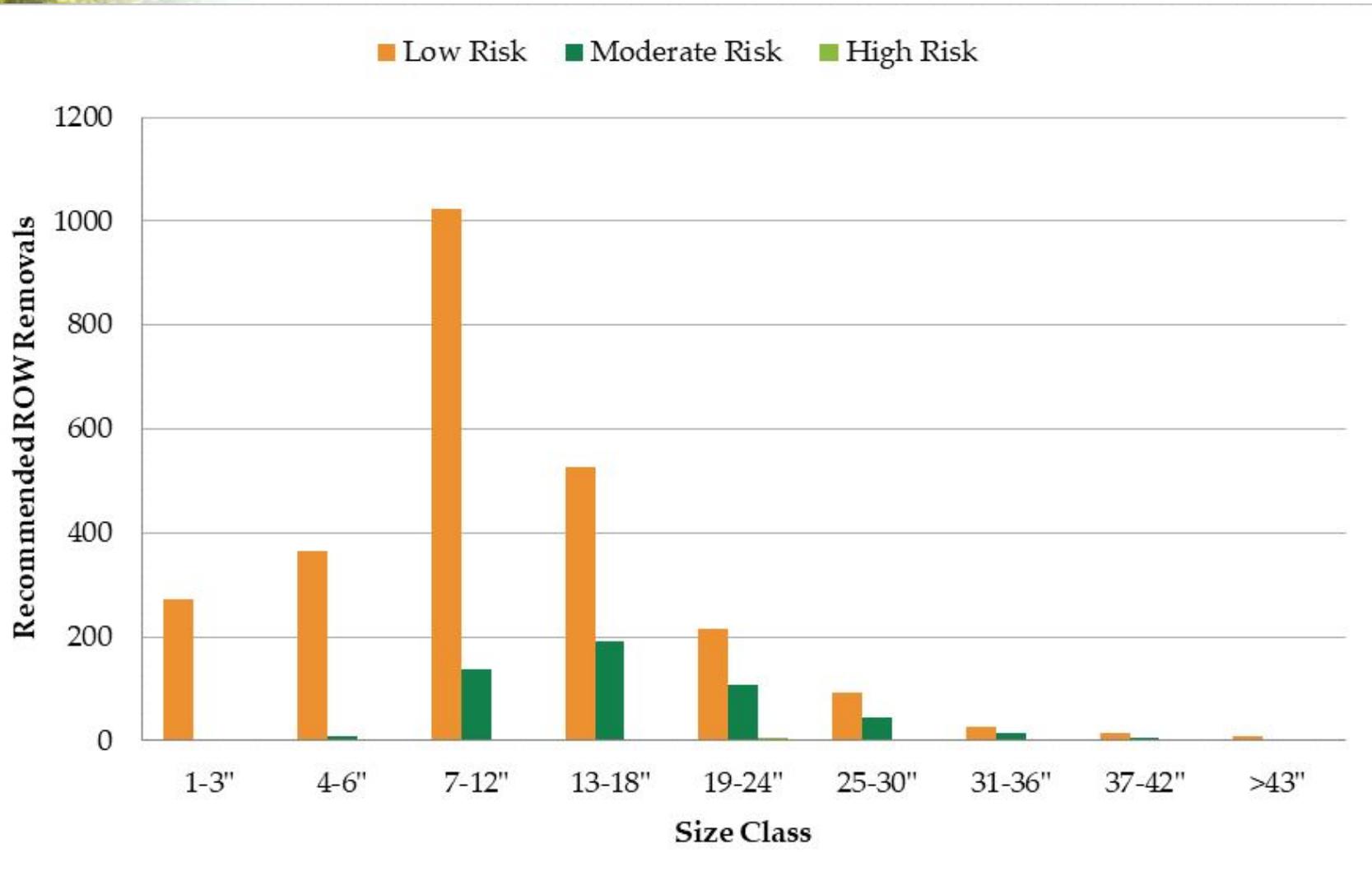
# Tree Prunings by Risk Rating Park Trees



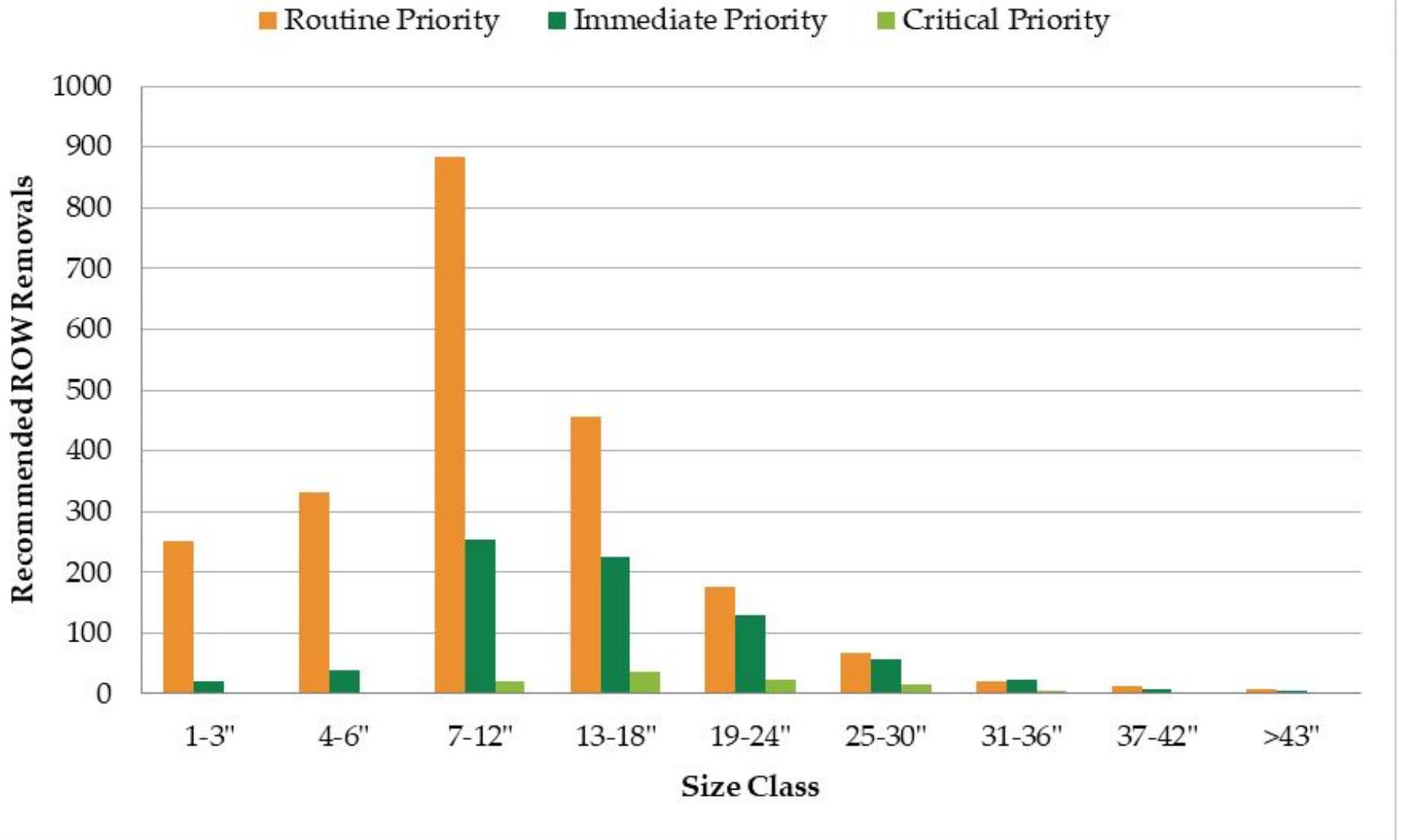
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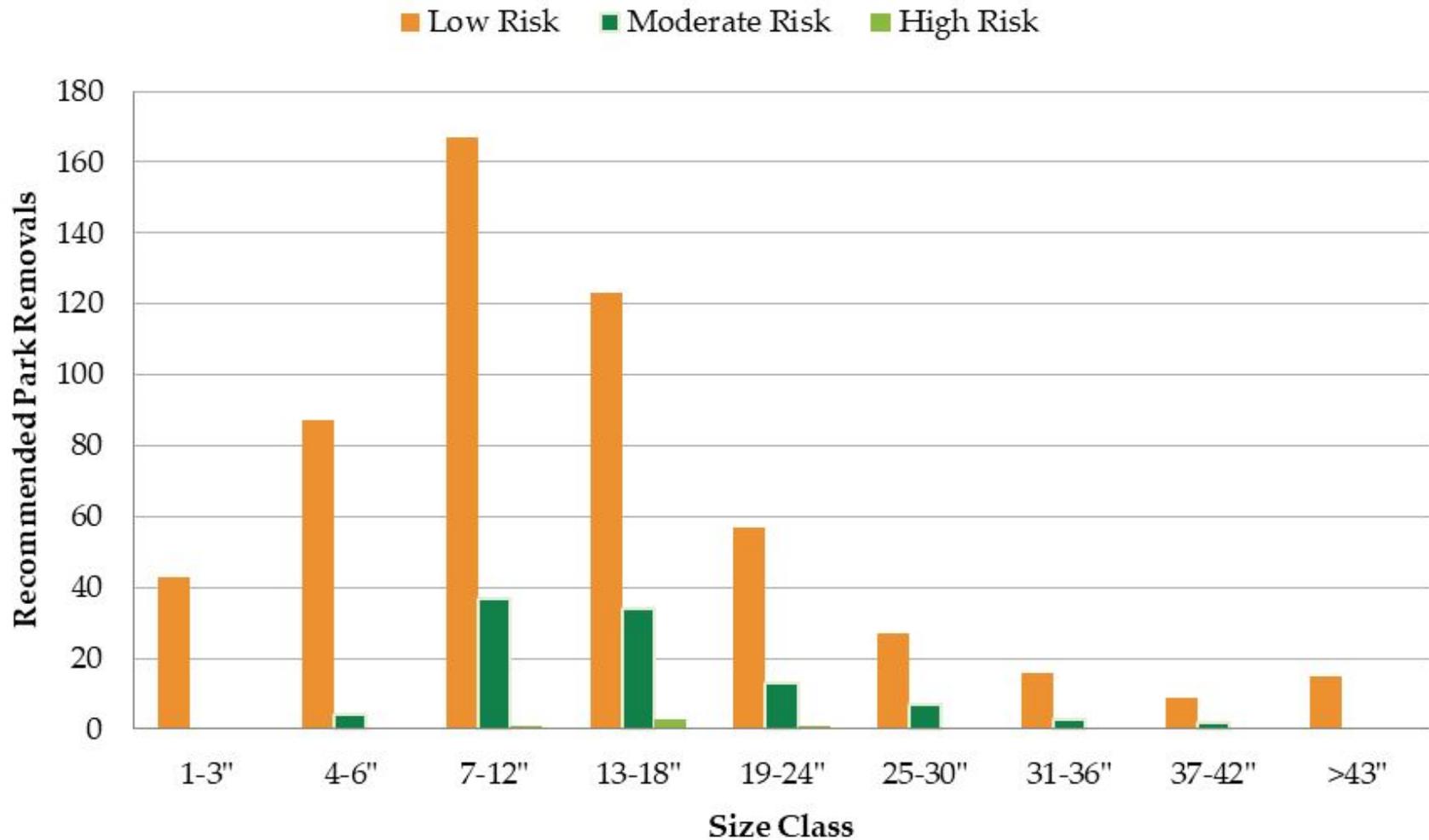
# Tree Removal by Risk Ratings in ROW



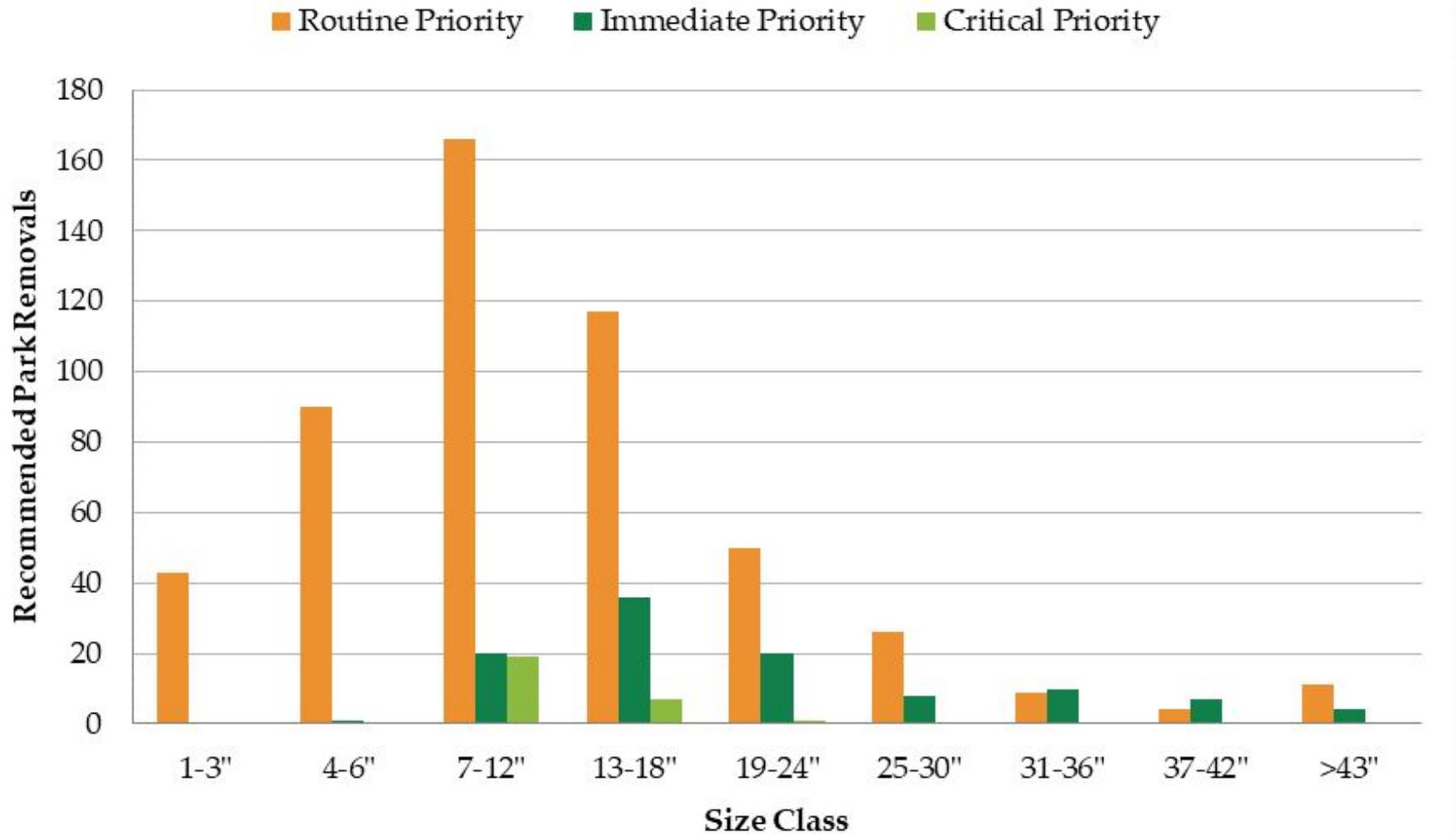
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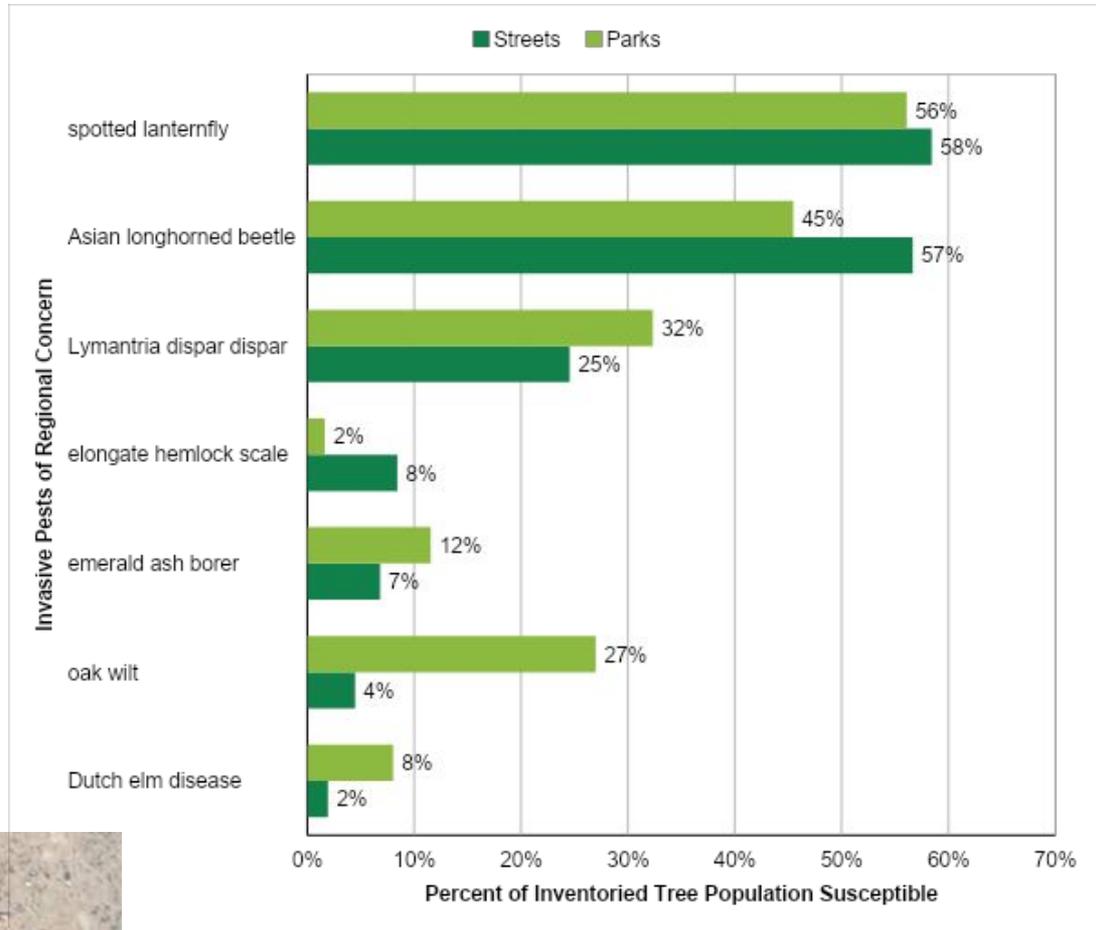
# Tree Removal by Risk Ratings in Parks



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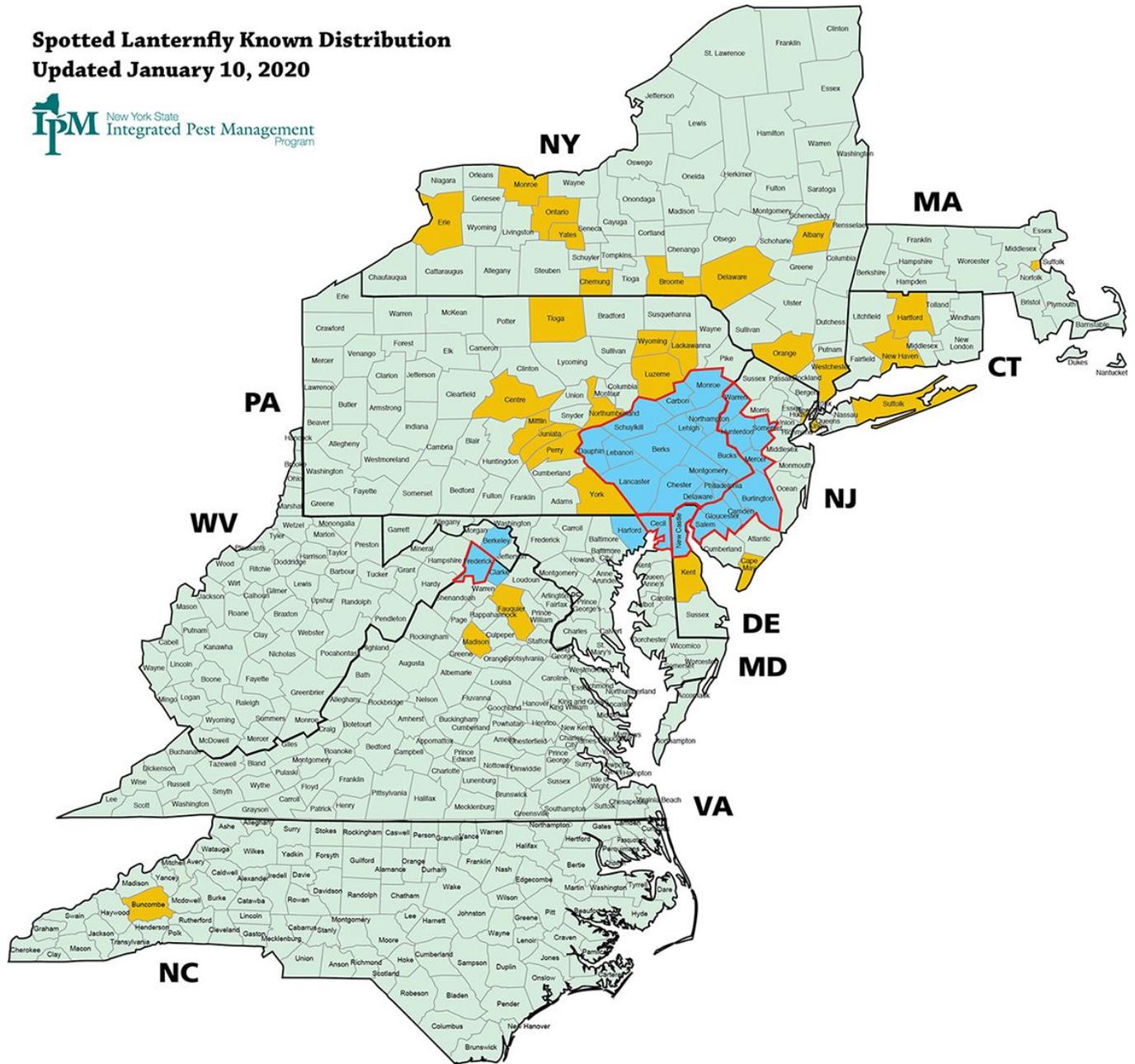


# Potential Invasive Insects



# Spotted Lanternfly Known Distribution

## Updated January 10, 2020



NY external quarantine areas. Spotted lanternfly infestation found.  Spotted lanternfly found, no infestation.

Internal state quarantine areas.



# i-Tree Eco Analysis



## Reduce Runoff + Erosion

Trees slow down and reduce stormwater runoff. 100 Mature trees can intercept 100,000 gallons of rainfall! Additionally, trees stabilize soil and provide habitat for wildlife (USFS, 2003a).



## Reduce Stress

Trees reduce the stress of drivers. They also decrease traffic speeds creating safer streets. Also, psychosocial signs of stress, such as muscle tension and pulse rate decrease within 3 or 4 minutes when a person is surrounded by trees (Wolf 1998a, Kuo and Sullivan, 2001b).



## Improve Health + Wellness

Employees who can see trees experience 23% less sick time and report higher satisfaction with their job (Wolf, 1998a). Recovering hospital patients who had a view of trees required fewer pain relievers, experienced fewer complications, and left sooner than other patients (Ulrich 1984, 1986).



## Reduce Air Pollution

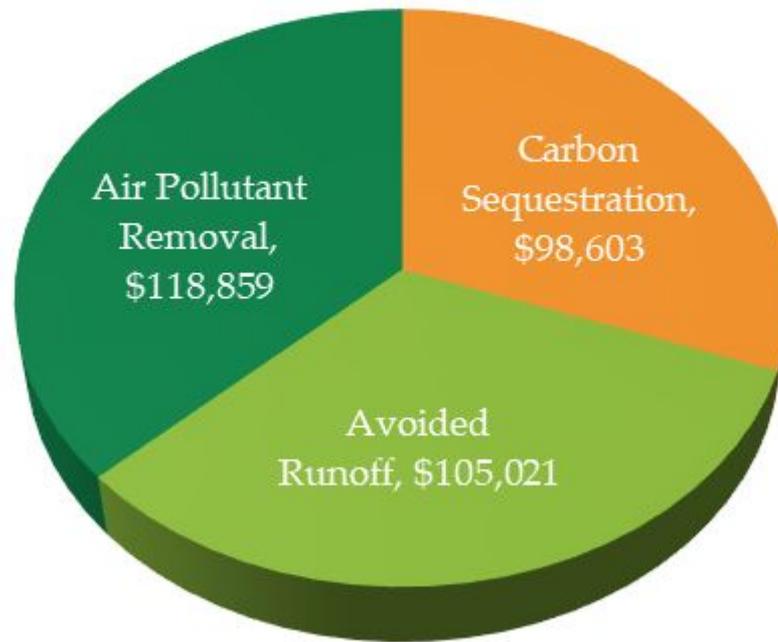
Trees reduce noise levels, clean the air, produce oxygen and absorb carbon dioxide. They also can reduce air pollution by 60% (Coder, 1996) and reduce rates of asthma in children (Lovasi, 2008).



## Reduce Crime

Chicago apartment buildings with high amounts of greenery compared to none saw a 52% reduction in crime (Kuo and Sullivan, 2001a). Areas that have 'medium' amounts of greenery experience a 42% reduction in crime (Kuo and Sullivan, 2001a).

■ Carbon Sequestration   ■ Avoided Runoff   ■ Air Pollutant Removal



Most Common Trees Inventoried		Count	Percent of Total	Benefits Provided by Street Trees				
				CO <sub>2</sub> Stored	CO <sub>2</sub> Sequestered	Avoided Runoff	Air Pollution Removed	Replacement Value
Common Name	Botanical Name		%	tons	tons/year	gal/year	lbs/year	Dollars
Norway Maple	<i>Acer platanoides</i>	16,128	28.4%	5,631.7	160.8	2,023,844	4,200	\$20,534,171
Green Ash	<i>Fraxinus pennsylvanica</i>	6,974	12.3%	2,743.4	52.4	2,224,430	4,620	\$15,462,786
Silver Maple	<i>Acer saccharinum</i>	4,993	8.8%	8,822.1	101.6	2,894,828	6,000	\$16,536,894
Littleleaf Linden	<i>Tilia cordata</i>	4,527	8.0%	1,361.9	30.3	879,781	1,820	\$8,562,961
Thornless Honeylocust	<i>Gleditsia triacanthos v. inermis</i>	3,813	6.7%	6,123.4	99.4	1,170,758	2,420	\$13,416,005
Callery Pear	<i>Pyrus calleryana</i>	3,070	5.4%	309.2	12.9	176,686	360	\$1,926,858
Red Maple	<i>Acer rubrum</i>	2,958	5.2%	1,006.8	25.7	392,638	820	\$3,759,791
Japanese Tree Lilac	<i>Syngria reticulata</i>	2,337	4.1%	105.2	6.9	41,627	80	\$737,092
Freeman Maple	<i>Acer × freemanii</i>	1,492	2.6%	1,409.4	25.7	352,736	740	\$2,019,401
Blue Spruce	<i>Picea pungens</i>	1,127	2.0%	221.4	3.6	136,507	280	\$1,294,917
Apple spp	<i>Malus</i> spp.	744	1.3%	167.8	3.5	37,953	80	\$644,638
Hedge Maple	<i>Acer campestre</i>	676	1.2%	52.0	1.6	59,660	120	\$346,640
Austrian Pine	<i>Pinus nigra</i>	588	1.0%	132.0	2.7	79,855	160	\$729,172
Japanese Zelkova	<i>Zelkova serrata</i>	552	1.0%	19.5	0.9	38,190	80	\$295,891
Norway Spruce	<i>Picea abies</i>	401	0.7%	148.9	2.0	105,223	220	\$829,583

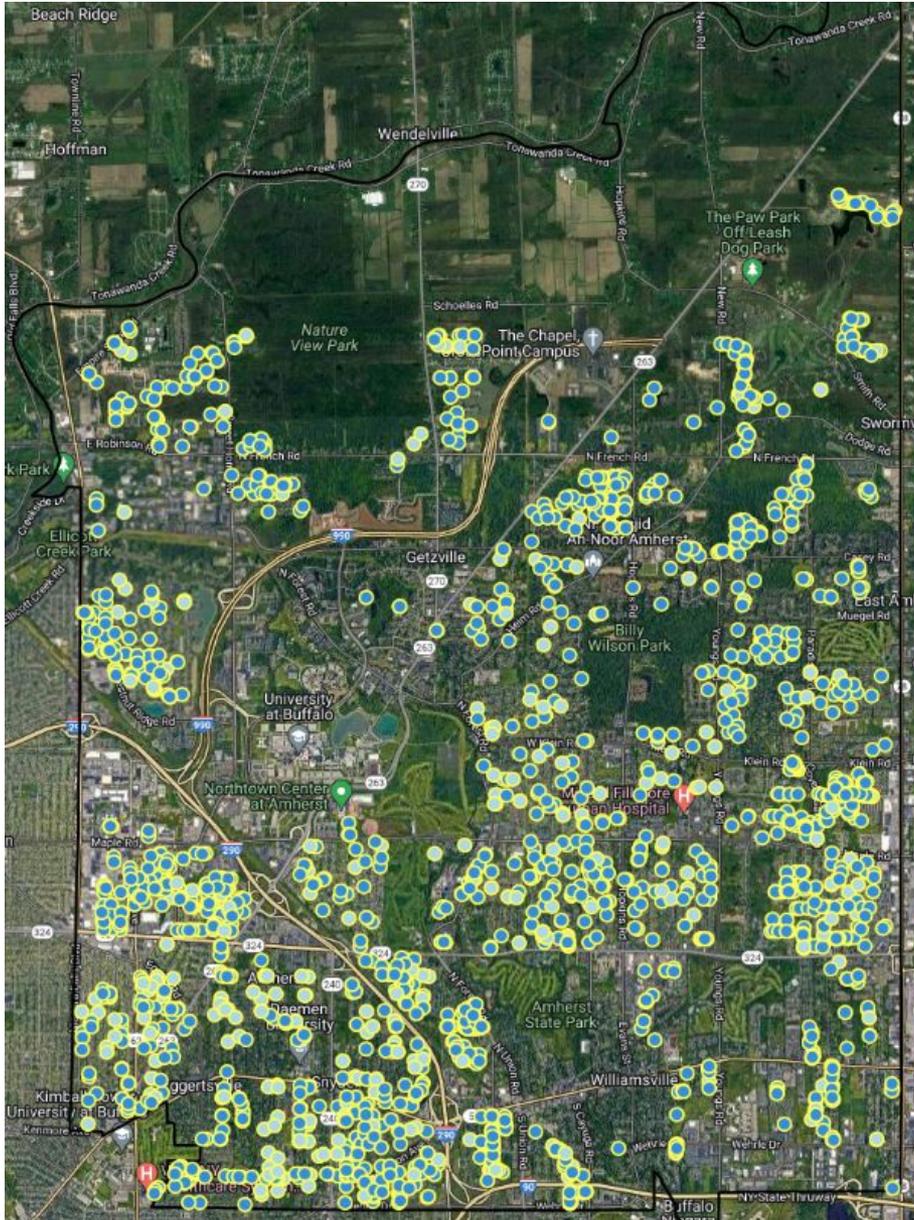


Early Detection Priority Species	
Scientific Name	Common Name
<i>Ampelopsis brevipedunculata</i>	Porcelain Berry
<i>Aralia elata</i>	Japanese Angelica Tree
<i>Brachypodium sylvaticum</i>	Slender False Brome
<i>Cytisus scoparius</i>	Scotch Broom
<i>Eichhornia crassipes</i>	Water Hyacinth
<i>Microstegium vimineum</i>	Japanese Stiltgrass
<i>Nymphoides peltata</i>	Yellow Floating Heart
<i>Persicaria perfoliata</i>	Mile-a-Minute Vine
<i>Pistia stratiotes</i>	Water Lettuce
Approaching Region Priority Species	
Scientific Name	Common Name
<i>Aldrovanda vesiculosa</i>	Waterwheel
<i>Anoplophora glabripennis</i>	Asian Longhorned Beetle
<i>Channa argus</i>	Northern Snakehead
<i>Galega officinalis</i>	Goatsrue
<i>Hypophthalmichthys molitrix</i>	Silver Carp
<i>Hypophthalmichthys nobilis</i>	Bighead Carp
<i>Impatiens glandulifera</i>	Himalayan Balsam
<i>Lycorma delicatula</i>	Spotted Lanternfly
<i>Oplismenus undulatifolius</i>	Wavyleaf Basket Grass

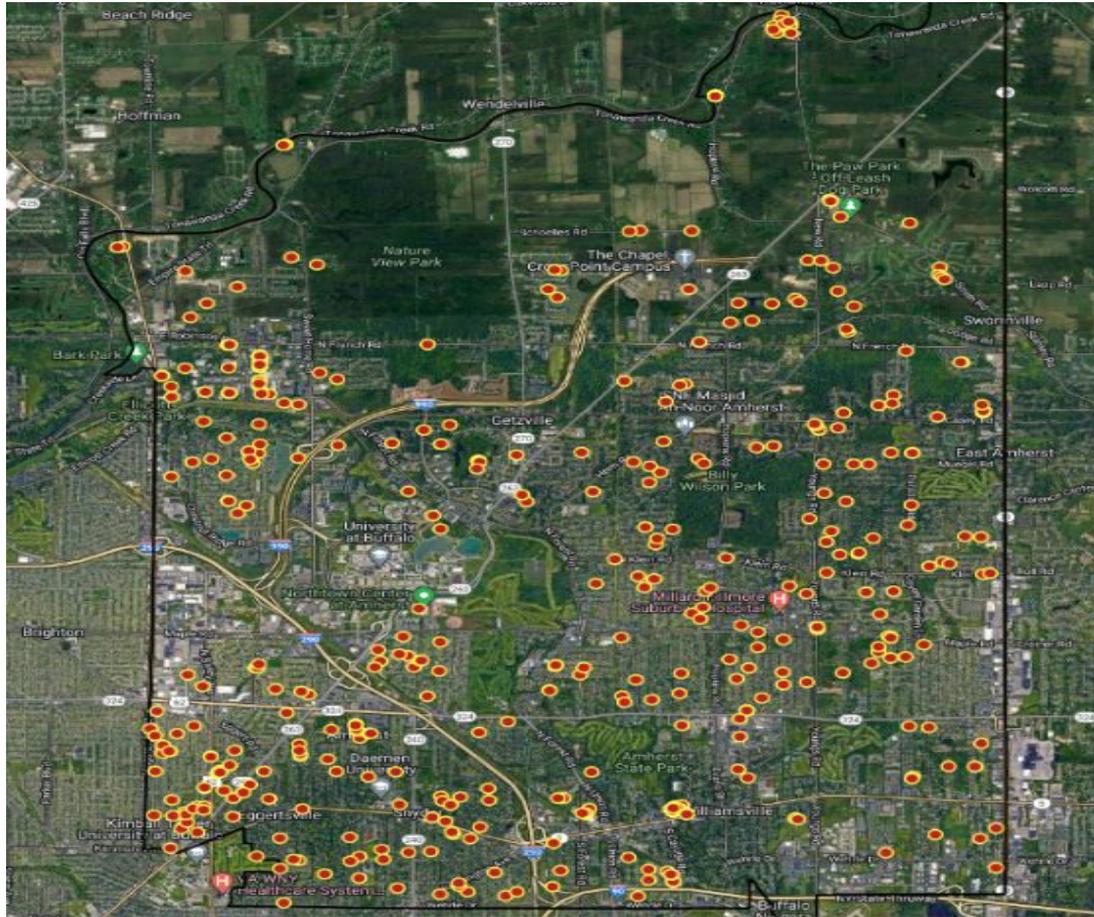


Invasive Species	
Common Name	Botanical Name
Asian longhorned beetle	<i>Anoplophora glabripennis</i>
buckthorn	<i>Rhamnus cathartica</i>
	<i>Frangula alnus</i>
common reed	<i>Phragmites australis</i>
emerald ash borer	<i>Agrilus planipennis</i>
flowering rush	<i>Butomus umbellatus</i>
honeysuckle	<i>Lonicera japonica</i>
	<i>Lonicera maackii</i>
	<i>Lonicera x bella</i>
	<i>Lonicera morrowii</i>
	<i>Lonicera tatarica</i>
multiflora rose	<i>Rosa multiflora</i>
purple loosestrife	<i>Lythrum salicaria</i>
spotted lanternfly	<i>Lycorma delicatula</i>
water hyacinth	<i>Eichhornia crassipes</i>

# Vacant Sites



# Stumps



Map 4. Recorded stumps in the Town of Amherst, NY



**Table 5.** Storm damage resistance levels

Wind*		
Level of Resistance	Number of Trees	Percent of Trees
High	14	0.0%
Medium-High	589	1.0%
Medium-Low	15,579	27.4%
Low	3,098	5.5%
Snow and Ice**		
Resistant	21,378	37.6%
Intermediate	4,127	7.3%
Susceptible	19,700	34.7%
Wind, Snow, and Ice***		
Excellent	1,250	2.2%
Good	27,802	48.9%
Poor	10,439	18.4%
Very Poor	8,613	15.2%



# URBAN FOREST MANAGEMENT GOALS AND TIMELINES

Complete all priority tree maintenance work

Maintain young tree training pruning program as three-year cycle

Develop a mature tree pruning program in a routine pruning cycle

Maintain planting program

Increase tree species and genus diversity

Select "Right Tree for the Right Place"

Create an approved tree species planting list

Create and enforce a do-not-plant list

Improve tree cover in public right-of-way (ROW)

Compensate for ash decline due to emerald ash borer (EAB).

Update tree inventory

# URBAN FOREST MANAGEMENT GOALS AND TIMELINES

Maintain and update tree-related regulations in village's zoning ordinances
Reduce risk associated with village trees
Reduce future conflicts with utilities and infrastructure with proper planting strategies
Prepare for future invasive species threats
Host Arbor Day celebrations
Educate citizens about trees
Apply for Tree City USA status



**Thank you for working with DRG!**

**QUESTIONS?**

Lori Brockelbank, Area Manager

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