

# Town of DeWitt, NY Street Tree Inventory Report



Prepared by Cornell University  
Student Weekend Arborist Team (SWAT)  
November 2009

# SWAT: Student Weekend Arborist Team

- Started in 2002
- Context for new street tree plantings
- “What should I plant?”
- “What have you got?”
- Manage proactively rather than reactively
- Focus on smaller communities

## Why do a tree inventory?

- ✓ To know current state of street and park trees
- ✓ Identify where to focus limited resources
- ✓ Improve long term management and health to maximize forest benefits
- ✓ Quantify the economic and environmental benefits of the urban forest resource
- ✓ To beautify the community and contribute to community identity

# How Inventory Was Done



Cornell students trained in the process

# How Inventory Was Done



Data collected in PDAs and GPS units, then downloaded to a computer

# How Inventory Was Done

[Compatibility Mode] - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J
	TreeID	LocationType	LocationSite	StreetName	StreetAddress	OnStreet	Side	Site#	WireConflict	Species
2	1	STREET TREES	Treelawn <4ft	SANGER AVE	9 SANGER AVE	SANGER AVE	No	1	No	PYCA
3	2	STREET TREES	Treelawn <4ft	SANGER AVE	9 SANGER AVE	SANGER AVE	No	2	No	TICO
4	3	STREET TREES	Treelawn <4ft	SANGER AVE	11 SANGER AVE	SANGER AVE	No	1	No	GLTR
5	4	STREET TREES	Treelawn <4ft	SANGER AVE	13 SANGER AVE	SANGER AVE	No	1	No	ZZZZ
6	5	STREET TREES	Treelawn <4ft	SANGER AVE	13 SANGER AVE	SANGER AVE	No	2	No	ACRU
7	6	STREET TREES	Treelawn <4ft	SANGER AVE	15 SANGER AVE	SANGER AVE	No	1	No	TICO
8	7	STREET TREES	Treelawn <4ft	SANGER AVE	17 SANGER AVE	SANGER AVE	No	1	No	ACPL
9	8	STREET TREES	Treelawn <4ft	SANGER AVE	19 SANGER AVE	SANGER AVE	No	1	No	ACSA1
10	9	STREET TREES	Treelawn <4ft	SANGER AVE	23 SANGER AVE	SANGER AVE	No	1	No	ACRU
11	10	STREET TREES	Treelawn <4ft	SANGER AVE	25 SANGER AVE	SANGER AVE	No	1	No	ACPL
12	11	STREET TREES	Treelawn <4ft	HARTFORD TER	50 HARTFORD TER	SANGER AVE	Yes	1	No	ACSA2
13	12	STREET TREES	Treelawn <4ft	HARTFORD TER	50 HARTFORD TER	SANGER AVE	Yes	2	No	FR
14	13	STREET TREES	Treelawn <4ft	HARTFORD TER	50 HARTFORD TER	SANGER AVE	Yes	3	No	ACSA2
15	14	STREET TREES	Treelawn <4ft	SANGER AVE	29 SANGER AVE	SANGER AVE	No	1	No	ACSA2
16	15	STREET TREES	Treelawn <4ft	SANGER AVE	29 SANGER AVE	SANGER AVE	No	2	No	ZZZZ
17	16	STREET TREES	Treelawn <4ft	SANGER AVE	33 SANGER AVE	SANGER AVE	No	1	No	GLTR
18	17	STREET TREES	Treelawn <4ft	SANGER AVE	37 SANGER AVE	SANGER AVE	No	1	No	ACSA2

Analysis done in GIS and Excel

# Data Collected



Species of Right-of-Way Trees

# Data Collected

Diameter at  
Breast Height –  
Approx 4 ½ Feet



# Data Collected



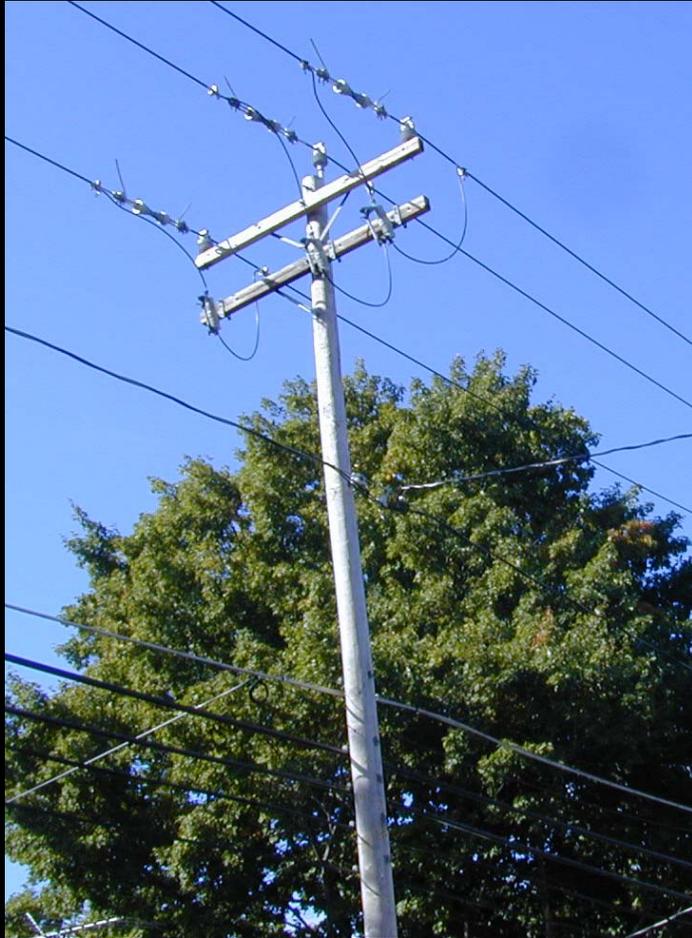
Location Information: Street Address + GPS  
(Getting back to the tree)

# Data Collected



Planting Spaces and Site Types  
(No trees + treelawns – front yards – tree pits )

# Data Collected



Wire Conflicts  
(Single and Triple Phase)

# Data Collected



Condition Wood

Dead – Poor – Fair – Good

# Data Collected



Condition Leaves

Dead – Poor – Fair – Good

# Data Collected



## Percent Deadwood

< 10% – 10-25% – 25-50% – 50-75 % – > 75%

# Data Collected



Maintenance Recommendations

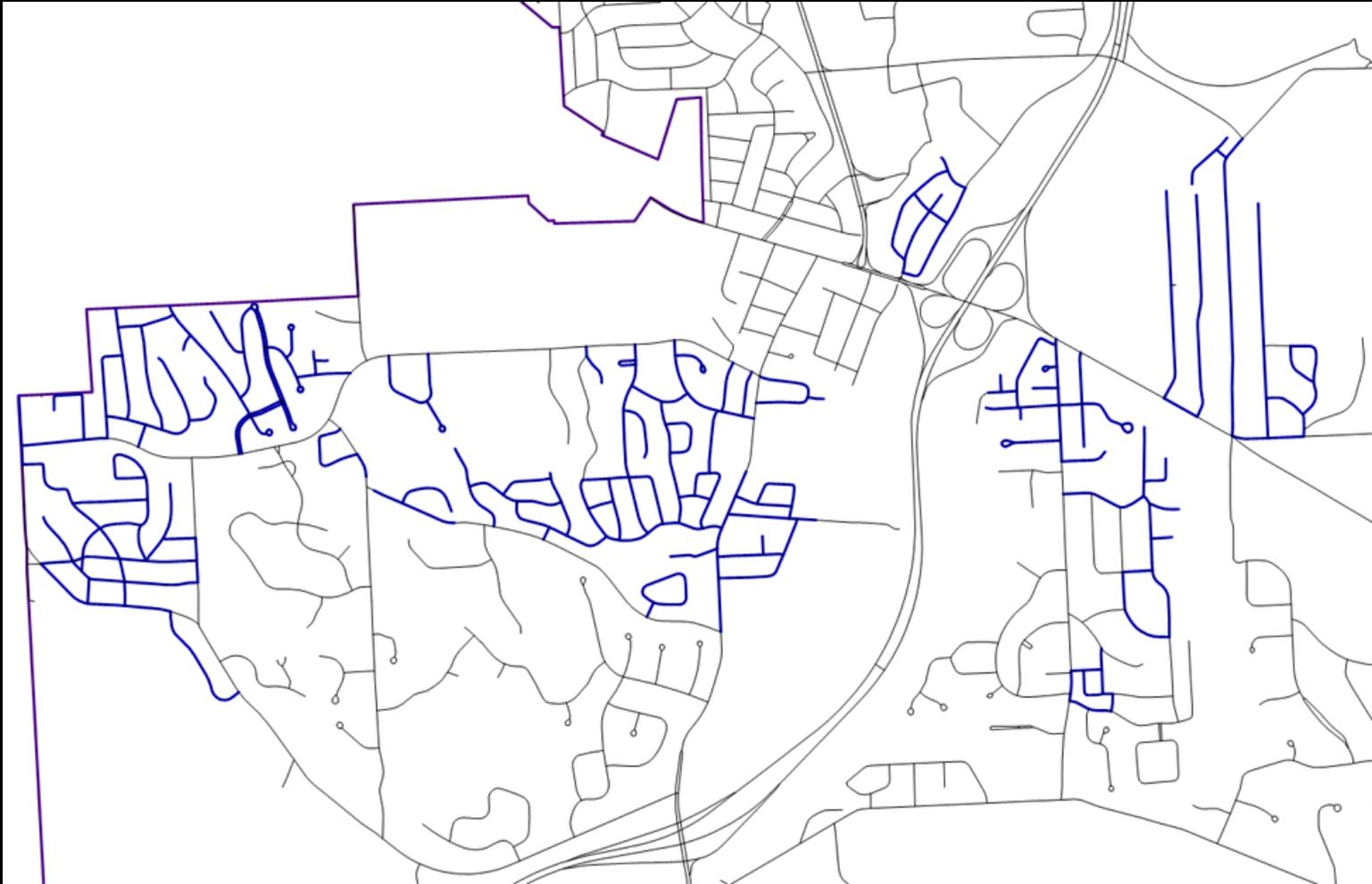
None – Train – Routine Prune – High Priority Prune

# Data Collected



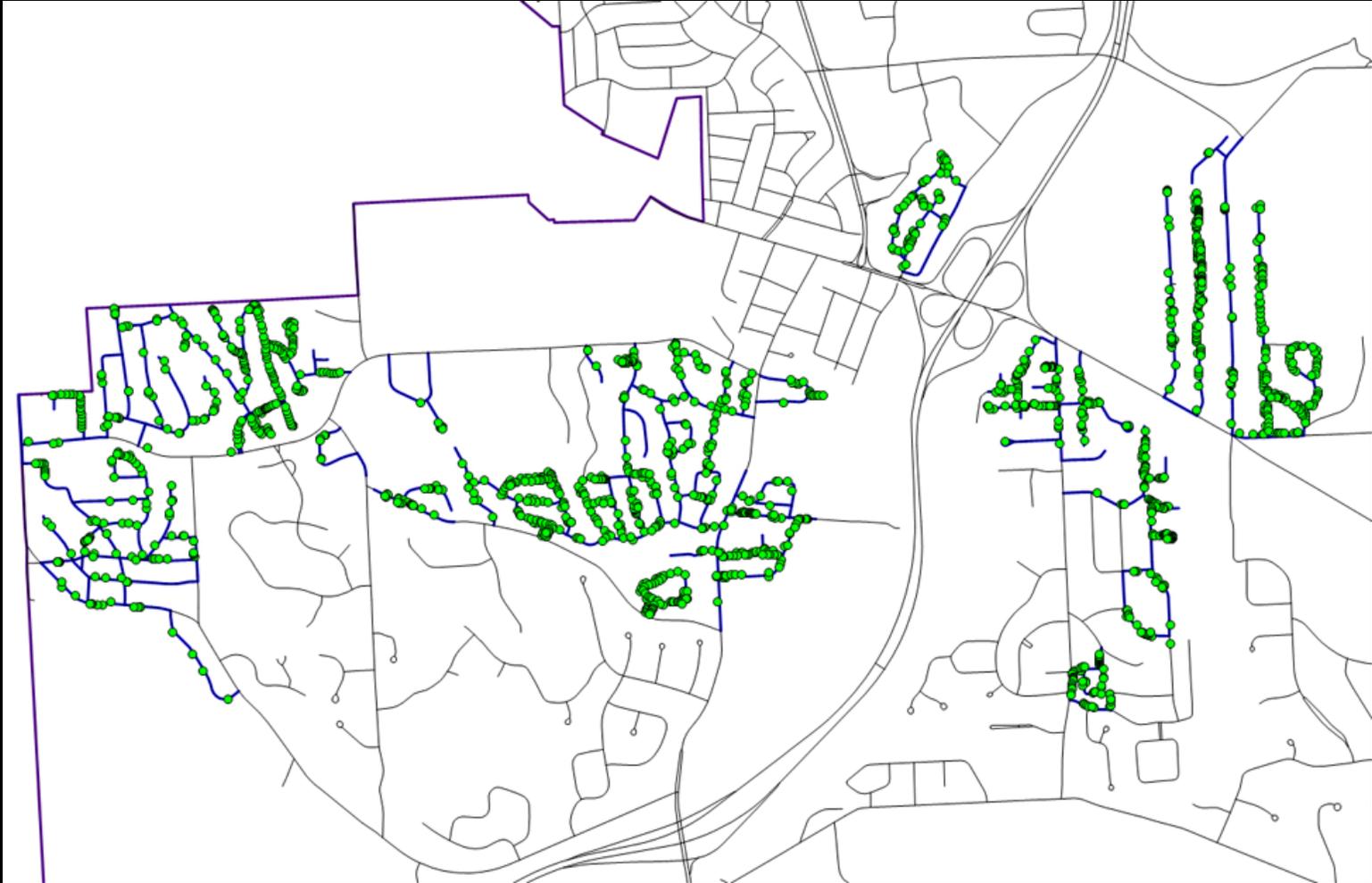
Consult Needed Designation  
(We do not make hazard evaluations)

# Summary – DeWitt Inventory



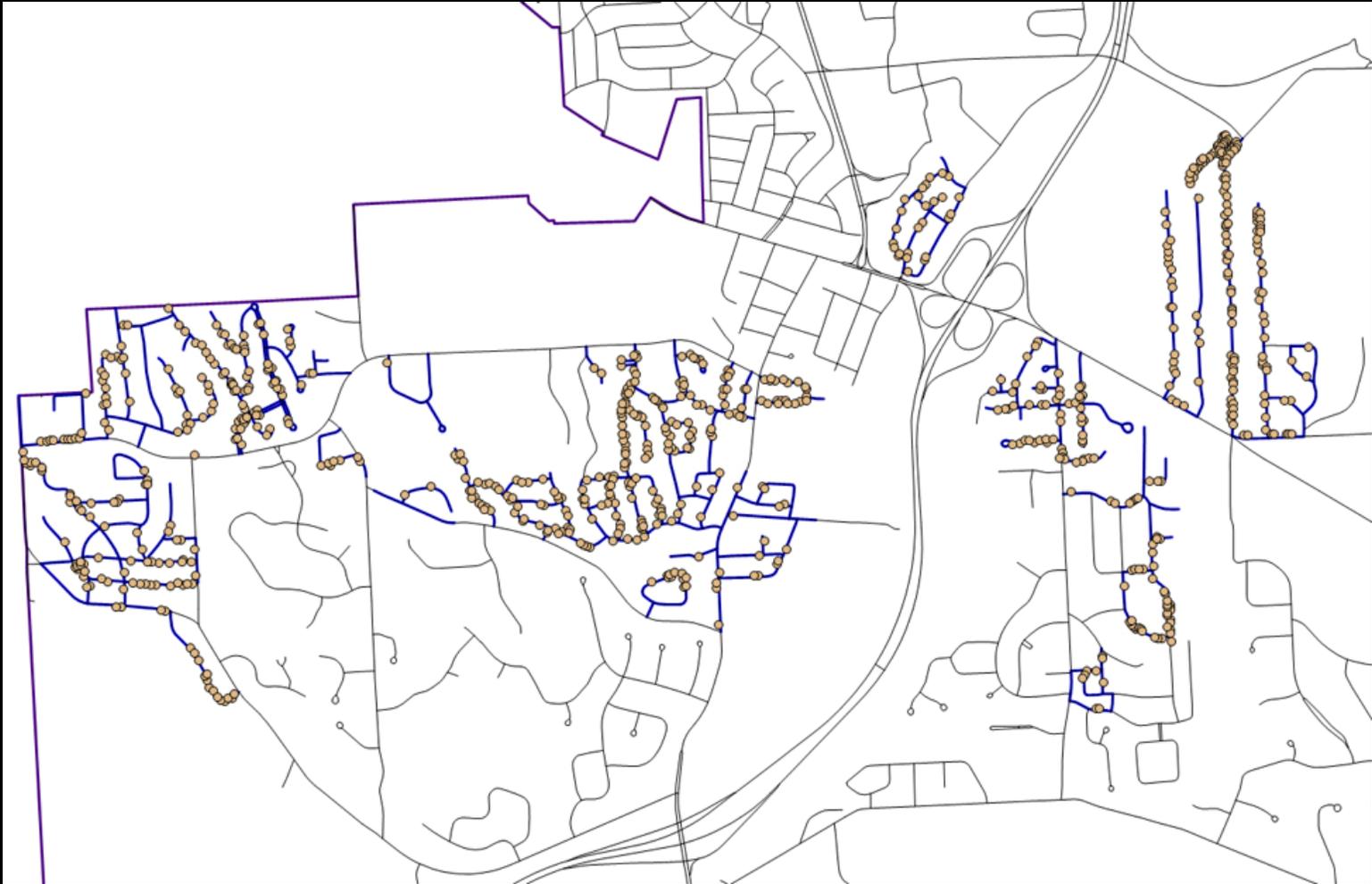
- Streets inventoried

# Summary – DeWitt Inventory



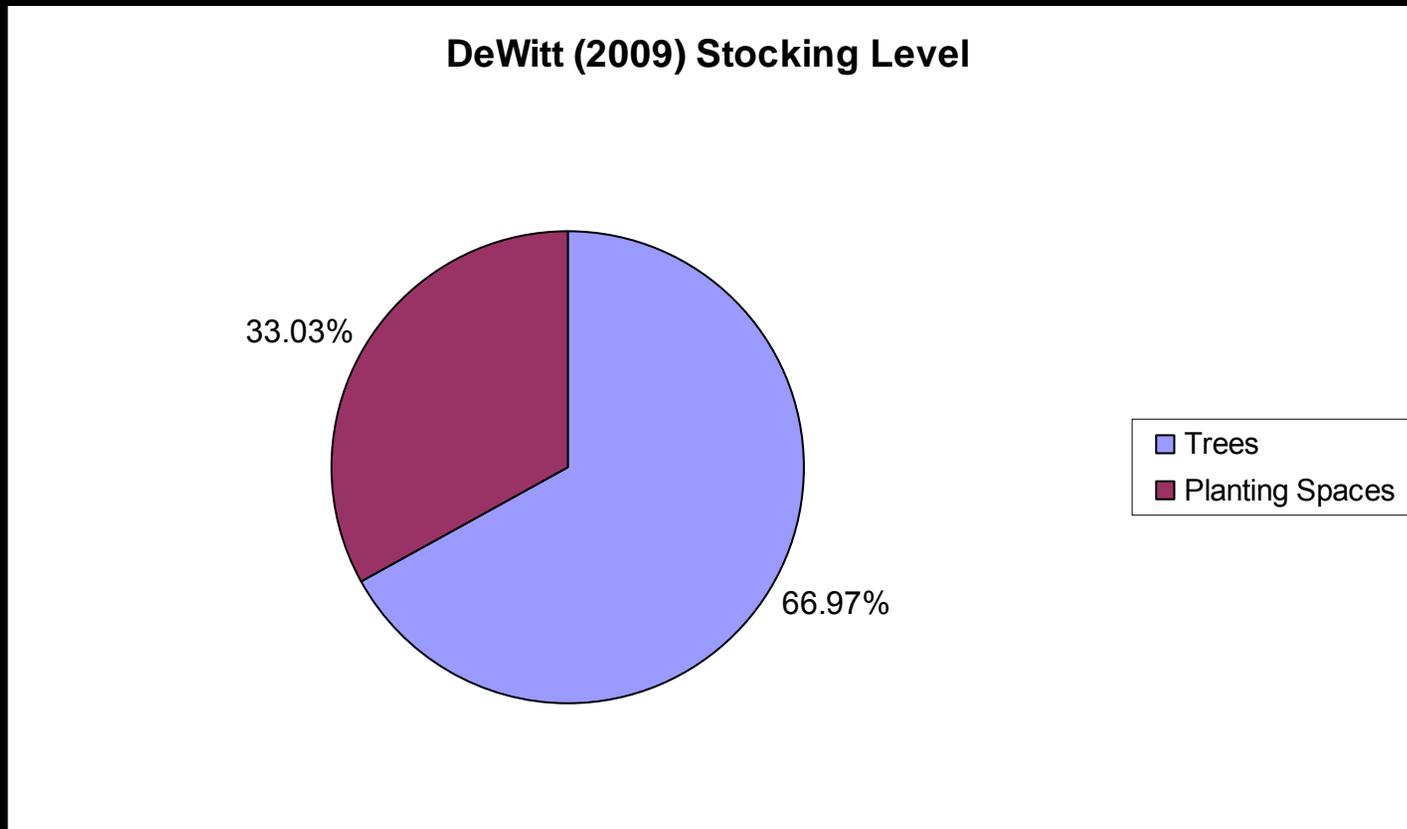
- 1531 trees in the ROW

# Summary – DeWitt Inventory



- 755 planting spaces in the ROW

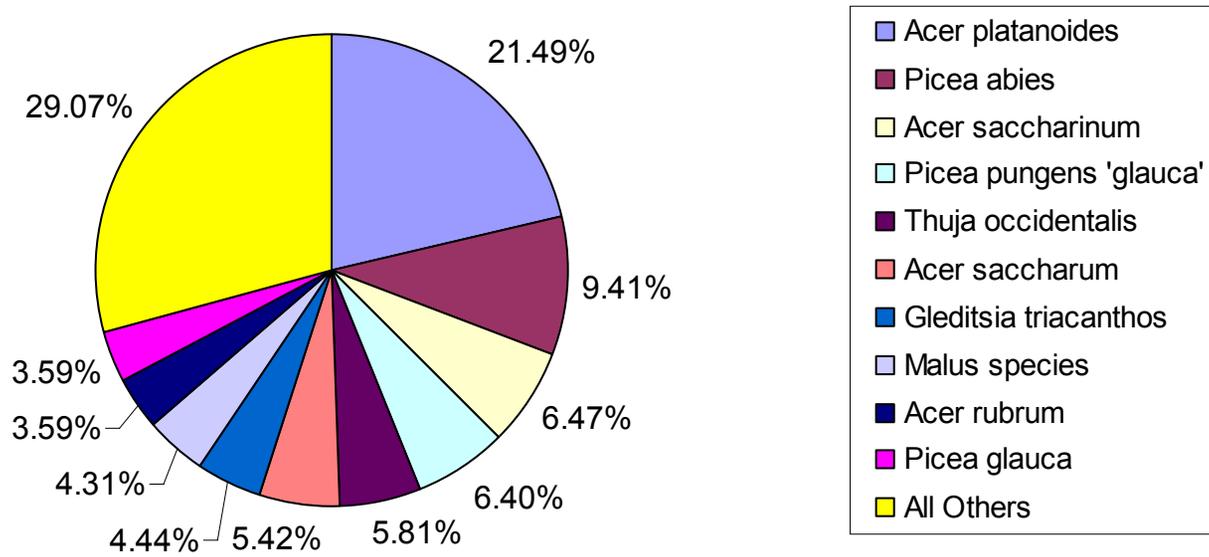
# Summary – DeWitt Inventory



- Trees planted / All available spaces
  - 66.97% of full stocking

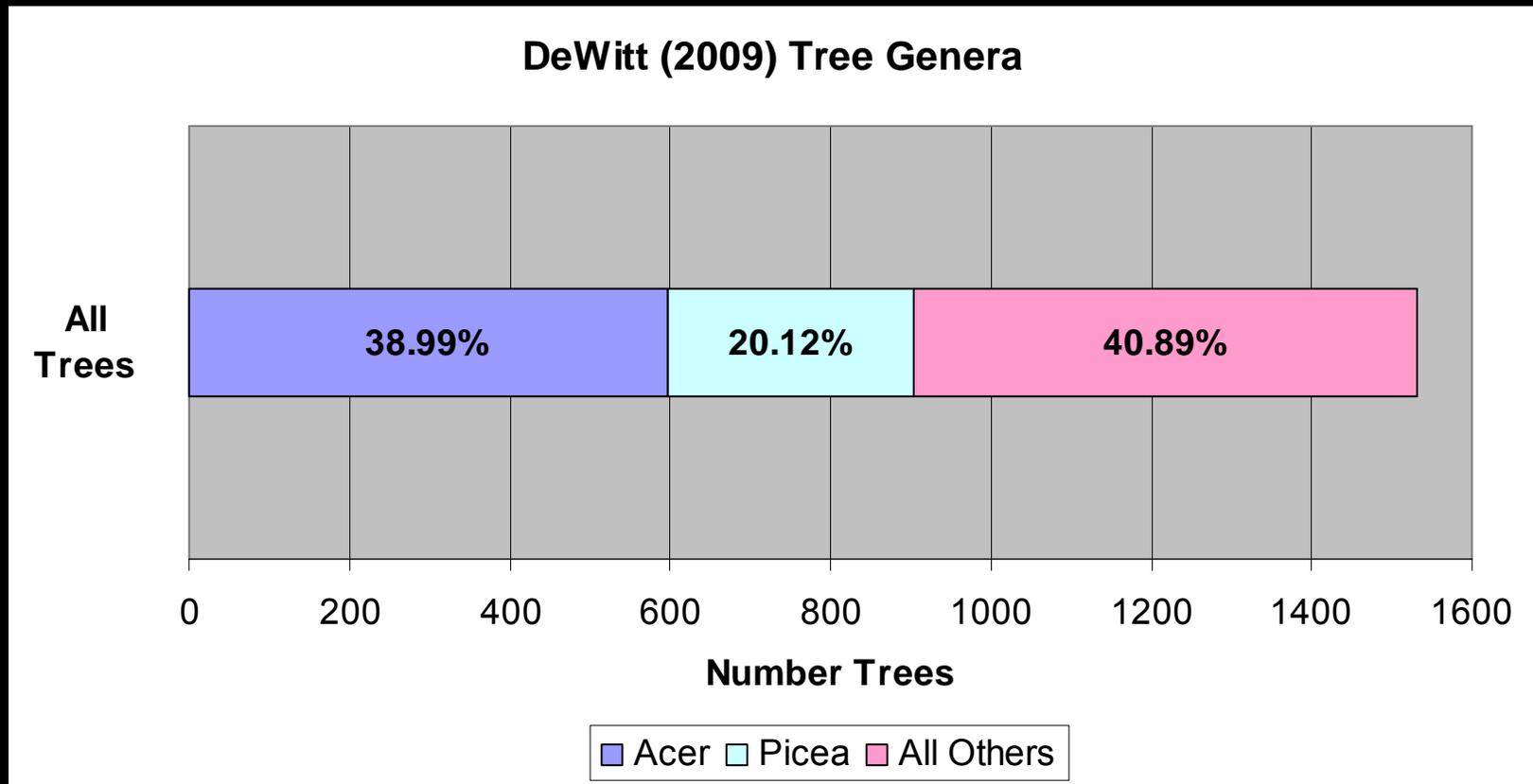
# Summary – DeWitt Inventory

DeWitt (2009) Species Distribution



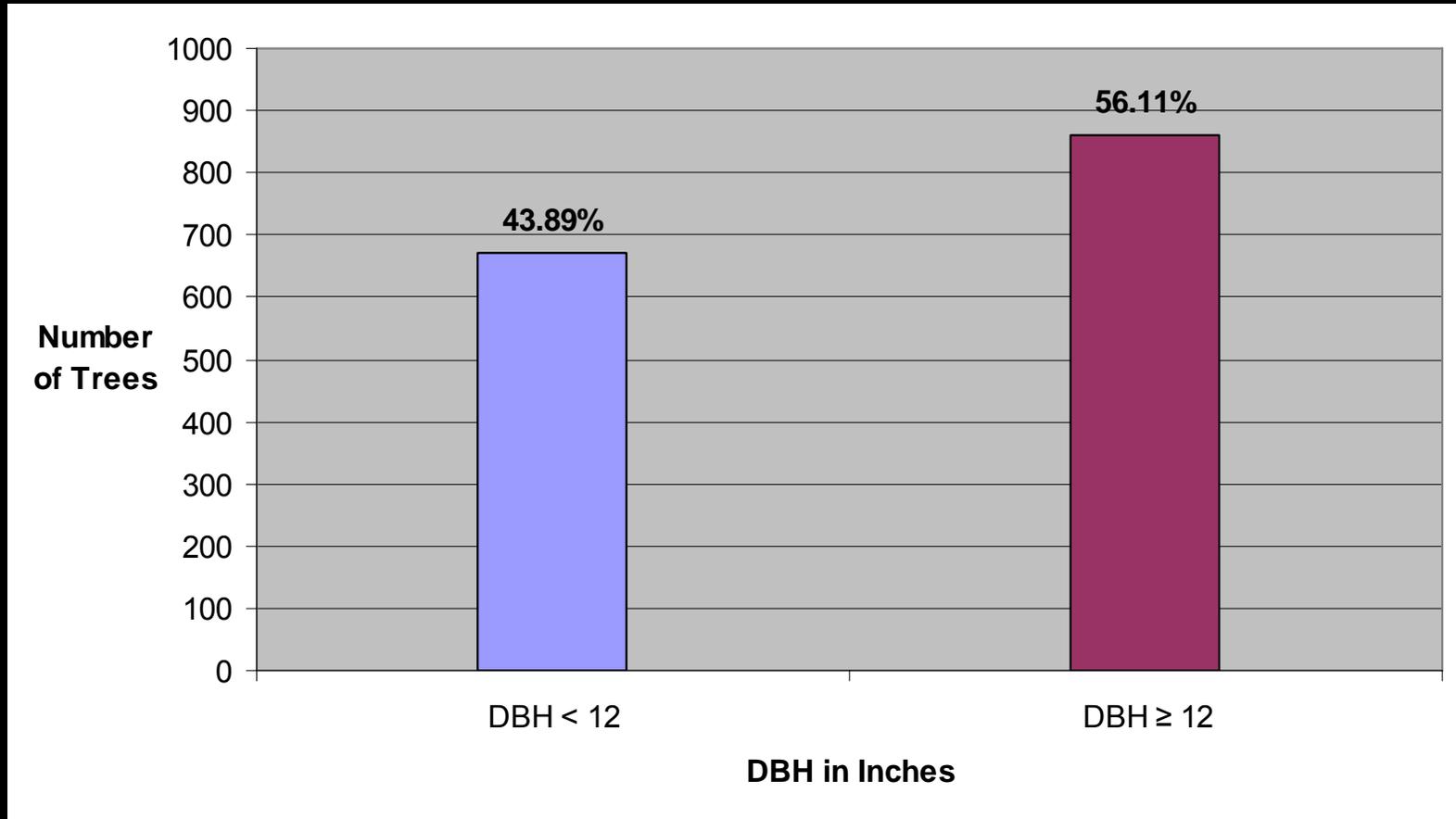
- 91 different species
- Norway Maple (21.49%) and Norway Spruce (9.41%) occur most often

# Summary – DeWitt Inventory



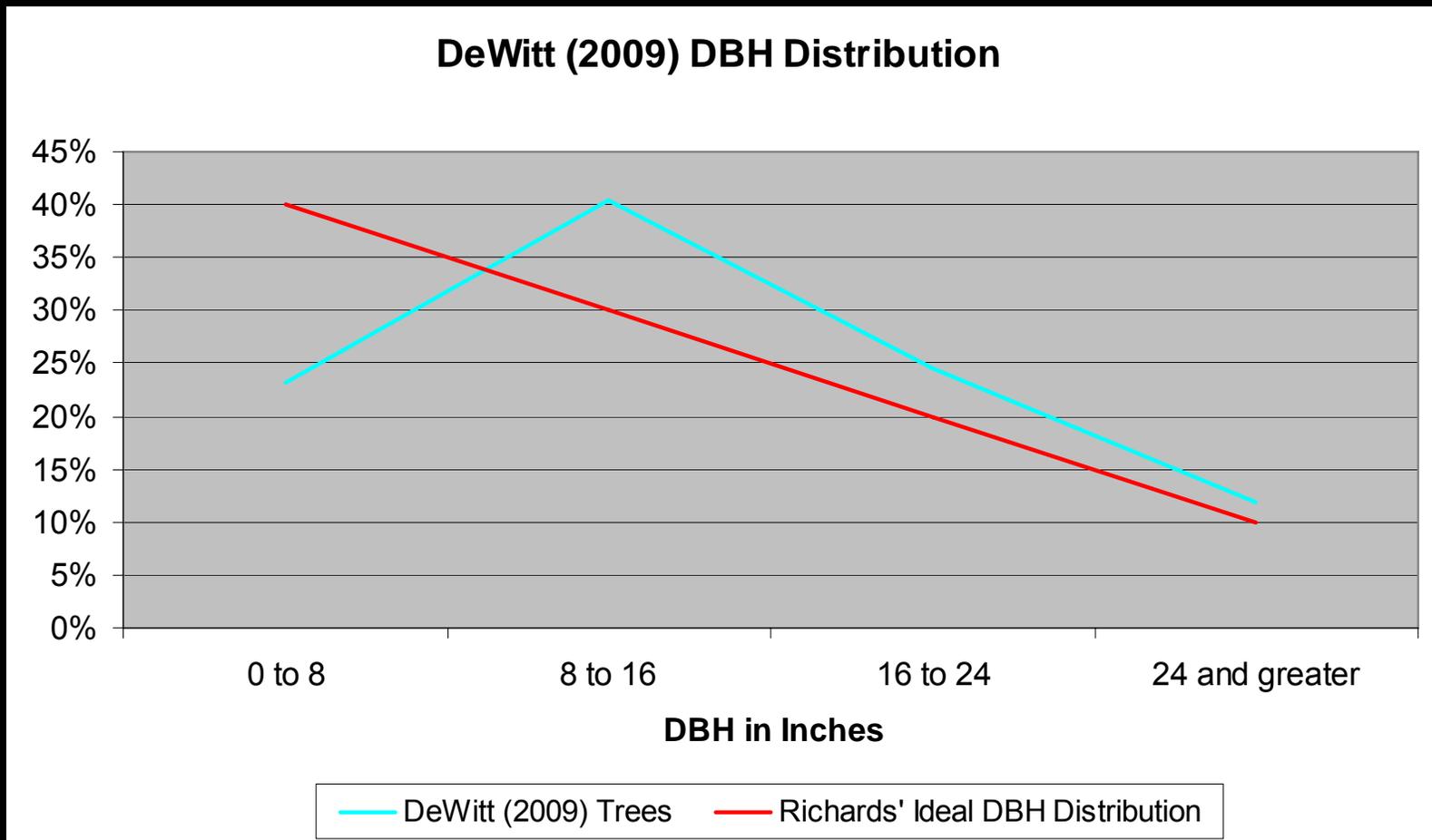
- 38.99% of inventoried trees were Maples
- 20.12% of inventoried trees were Spruce

# Summary – DeWitt Inventory



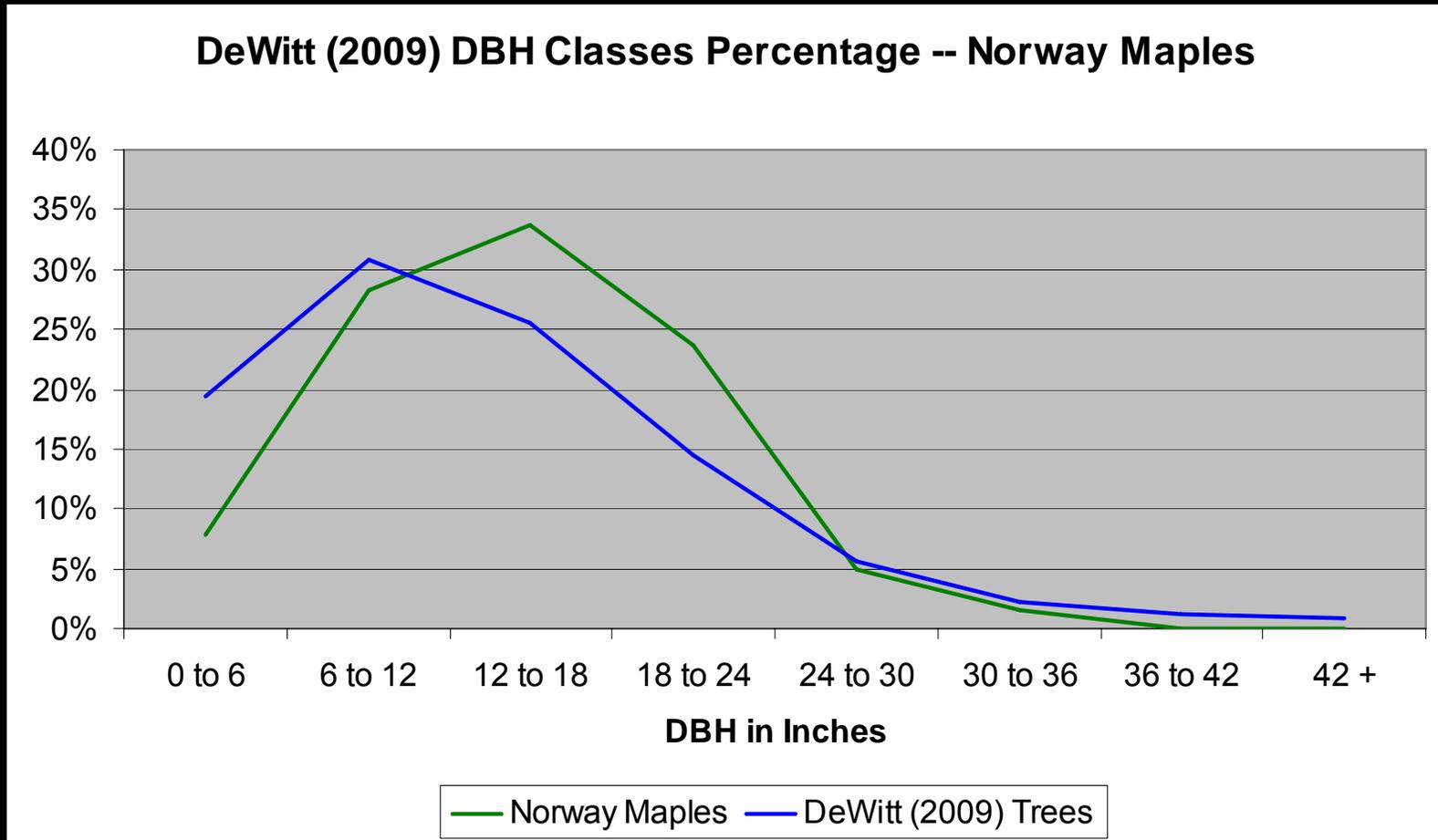
- 43.89% of ROW trees have DBH < 12
- 56.11% of ROW trees have DBH ≥ 12

# Summary – DeWitt Inventory



- Not enough young trees
- Too many old ones

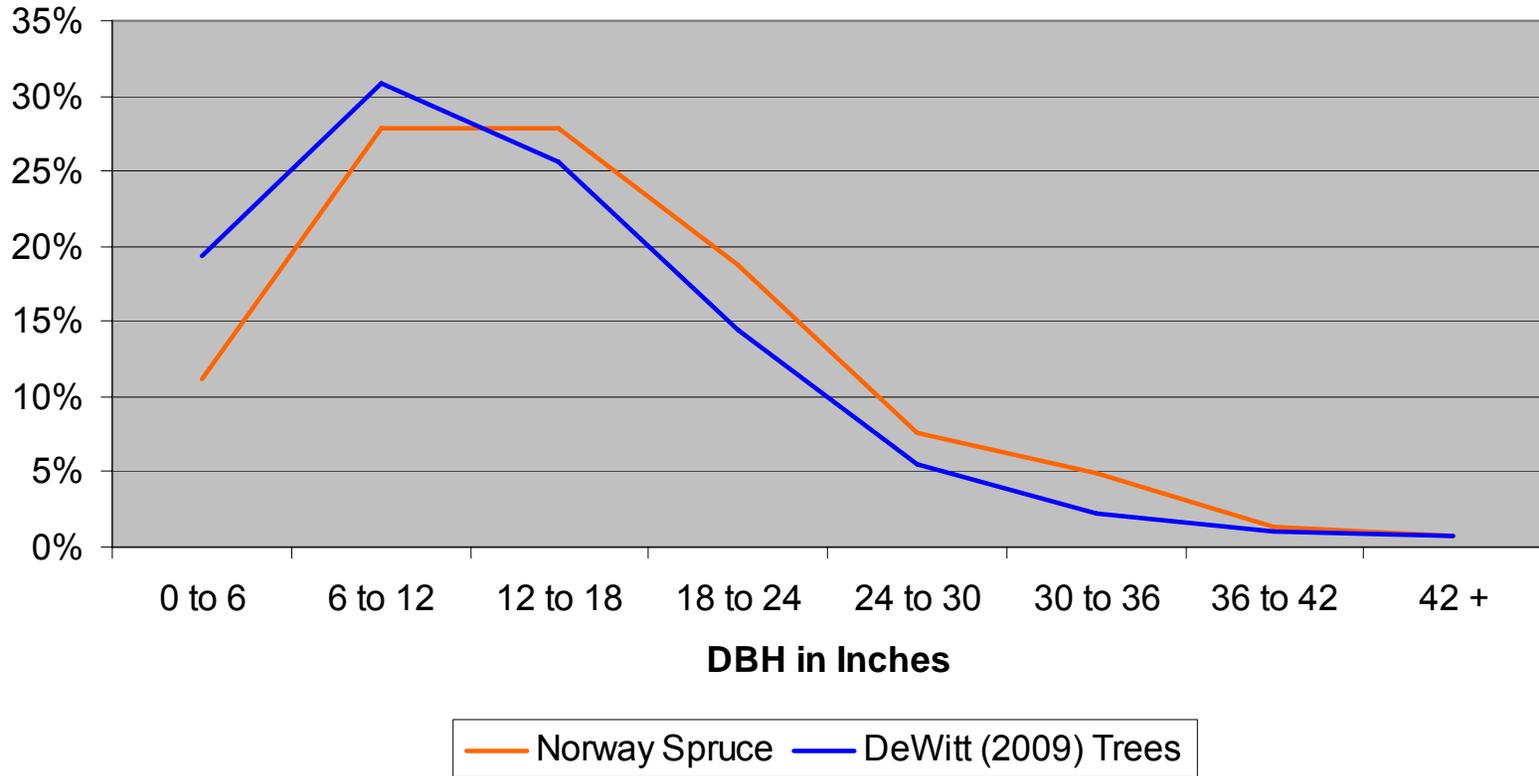
# Summary – DeWitt Inventory



- Norway Maples are getting old

# Summary – DeWitt Inventory

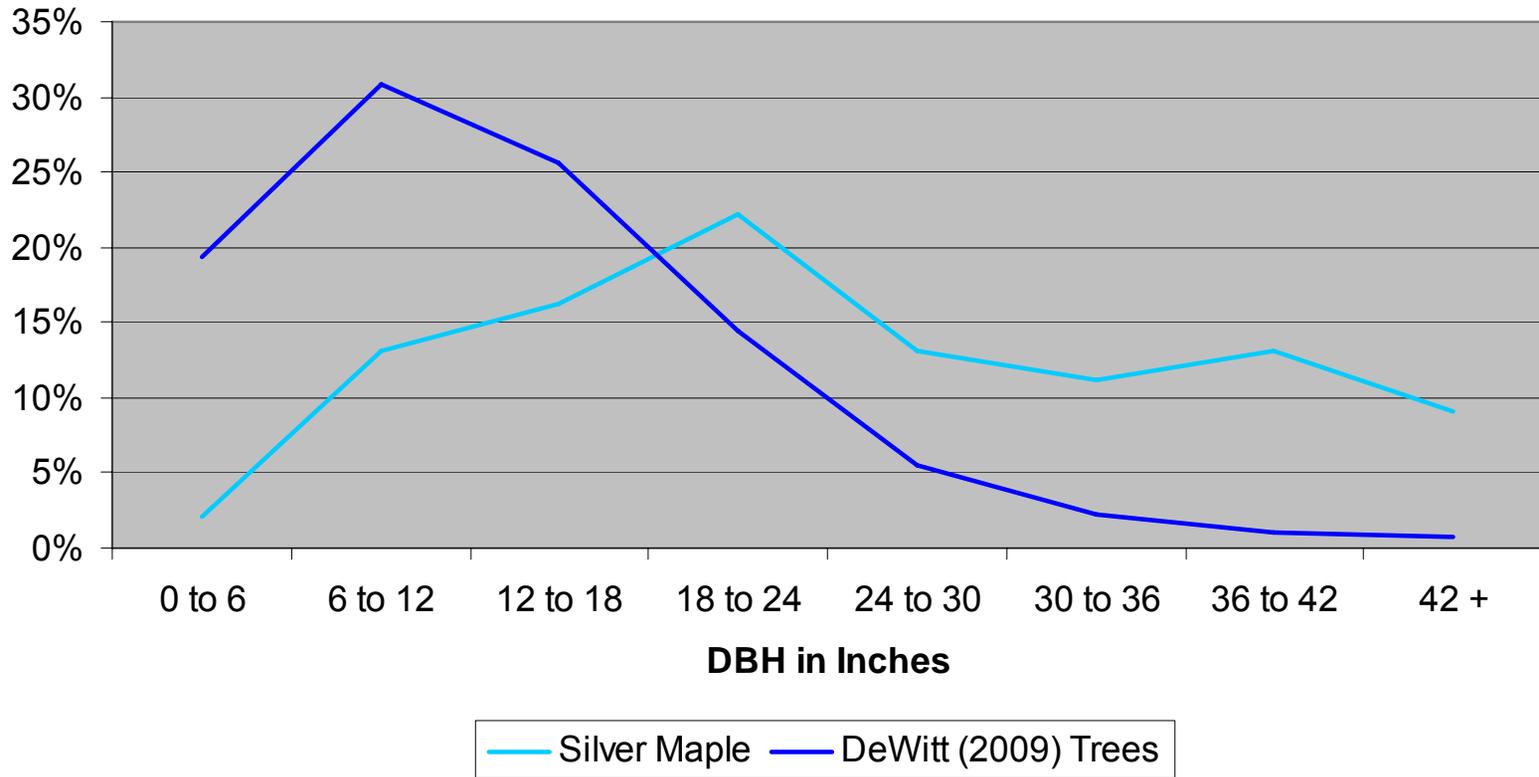
DeWitt (2009) DBH Classes Percentage -- Norway Spruce



- So too Norway Spruce

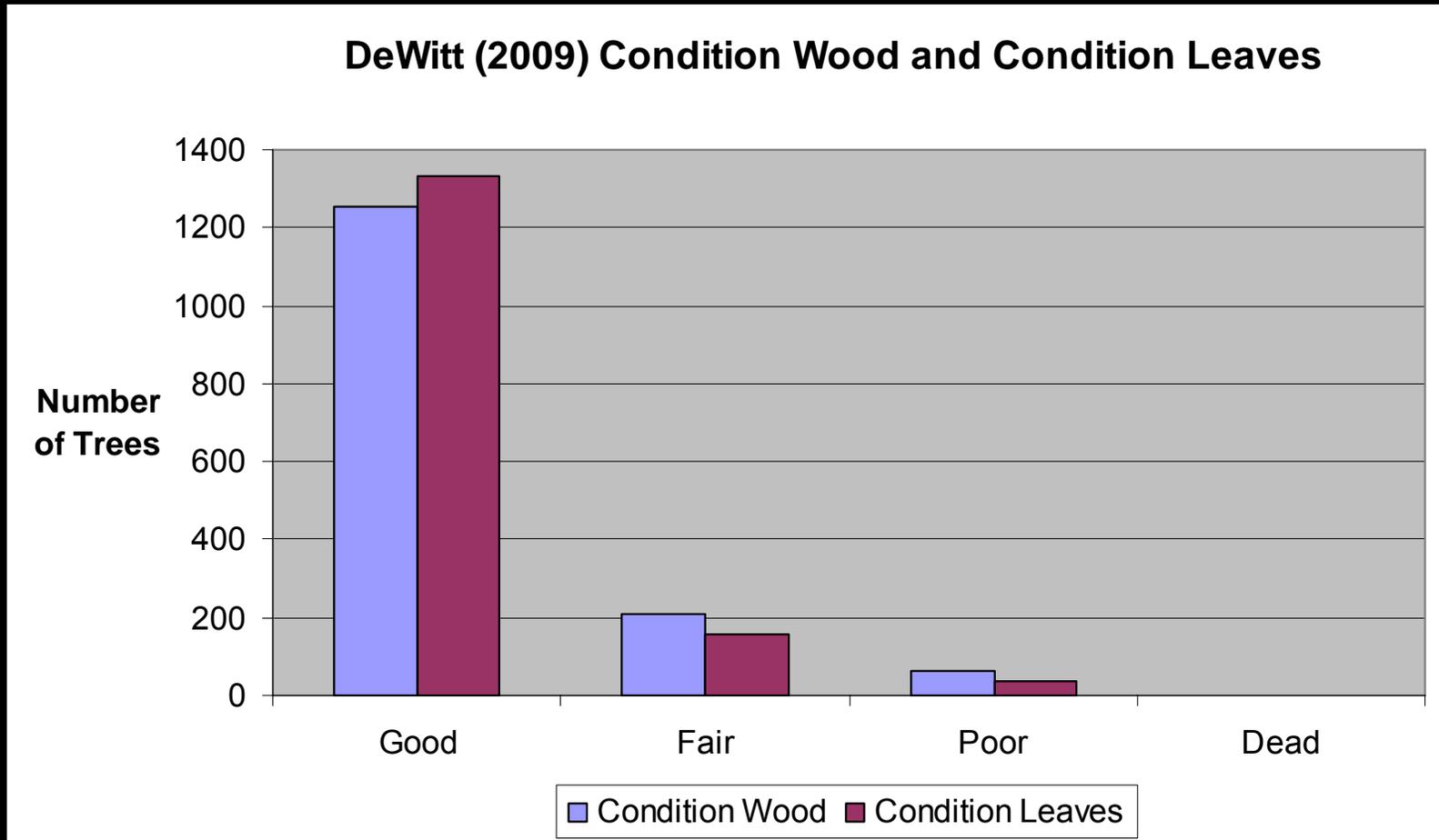
# Summary – DeWitt Inventory

DeWitt (2009) DBH Classes Percentage -- Silver Maple



- Silver Maples are disproportionately old

# Summary – DeWitt Inventory



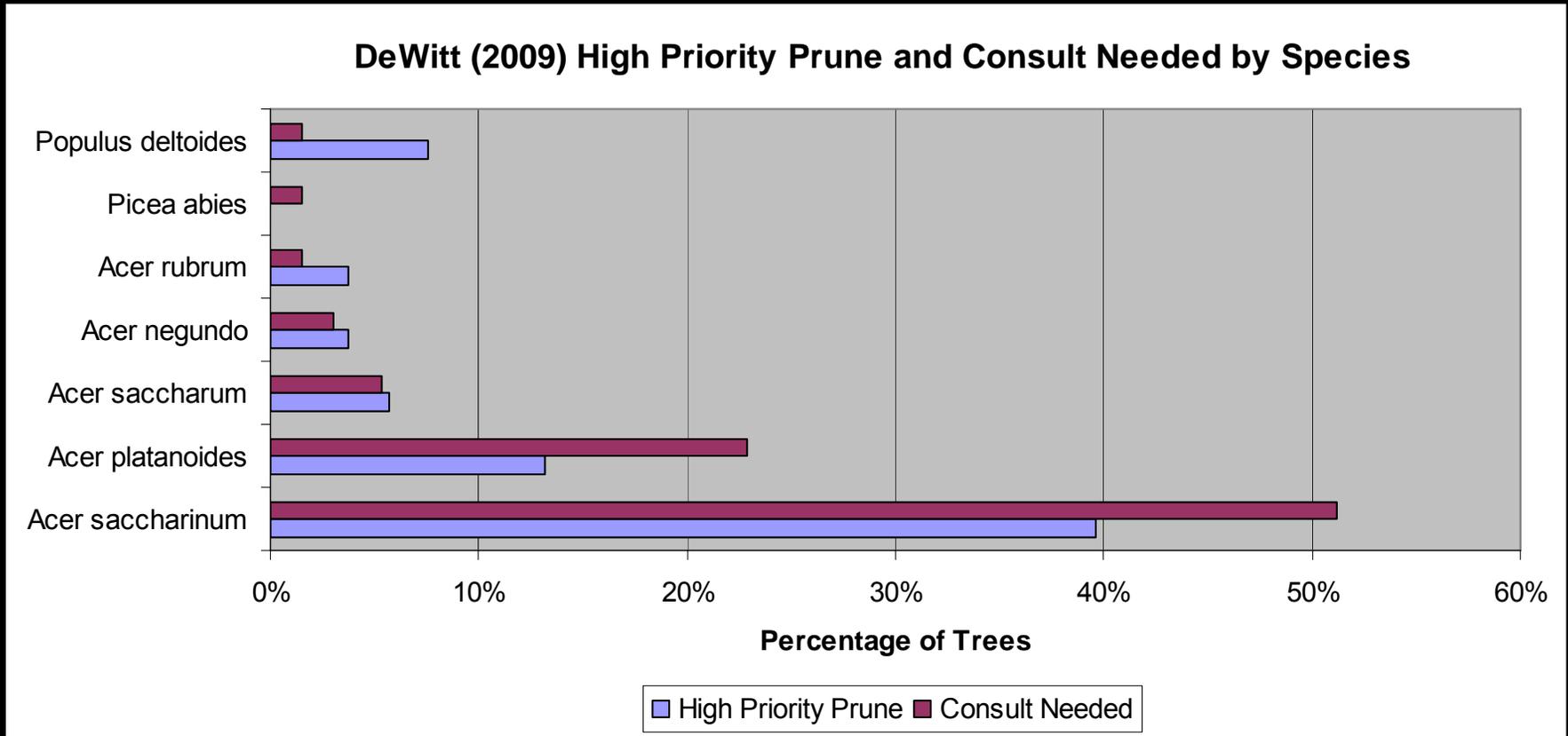
- Most trees are in good condition

# Summary – DeWitt Inventory

<b>Maintenance Recommendation</b>	<b>Number of Trees</b>	
None	659	43.02%
Train	77	5.03%
Routine Prune	742	48.43%
High Priority Prune	53	3.46%
<b>Consult Needed</b>		
No	1400	91.44%
Yes	131	8.56%

- 96.54% need a Routine Prune at most
- 8.56% should be inspected by an arborist

# Summary – DeWitt Inventory



- Silver and Norway Maples account for most maintenance needs and concerns

# Summary – DeWitt Inventory

Tools for assessing and managing  
**Community Forests**  
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**i-Tree**

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**Assessing Urban Ecosystems**  
Find out how to assess your community's *entire urban forest*.  
[click here to begin](#)

**Assessing Street Tree Populations**  
Learn how to assess the *street tree component* of your community's urban forest.  
[click here to begin](#)

**Applications and Utilities**  
Access tools to help you strengthen your community's *tree management* efforts.  
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**What's New?**  
We are hard at work improving i-Tree based on your feedback from this spring and summer field season! [Here](#) are some of the updates to expect in the coming months.  
The i-Tree Academy and Mid-Atlantic workshop materials are now available. [Download](#) all presentations, handouts, and exercises individually or in their entirety.  
Have you visited the new [User Forum](#) yet? It is the place to share your experiences, communicate with other users, and get all your i-Tree questions answered.  
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- STRATUM: environmental and social benefits provided by street trees

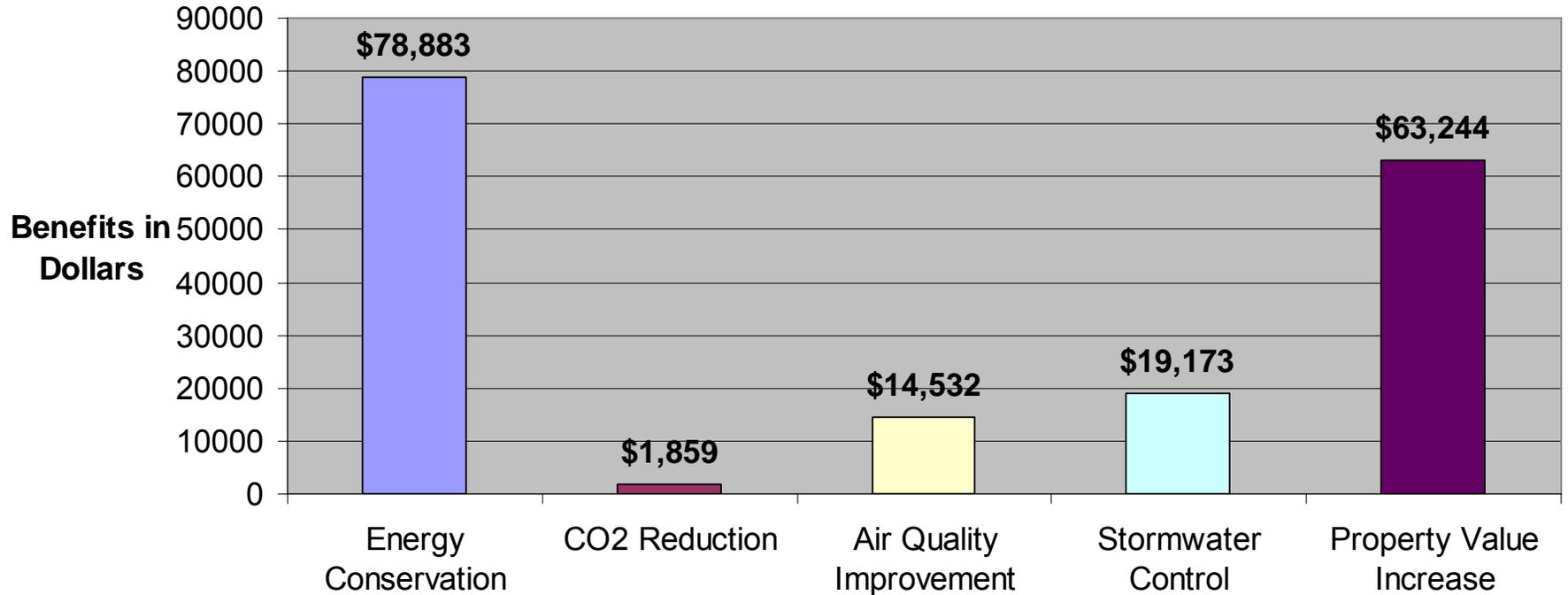
# Summary – DeWitt Inventory

## STRATUM Calculated Street Tree Benefits

- Energy Conservation
- Stormwater Reduction
- Air Quality Improvement
- CO<sub>2</sub> Reduction
- Stored Carbon
- Aesthetic/Other (property value increase)

# Summary – DeWitt Inventory

## DeWitt Annual Street Tree Benefits



- Total Annual Benefits: \$177,692
- Benefits per Tree: \$116.06

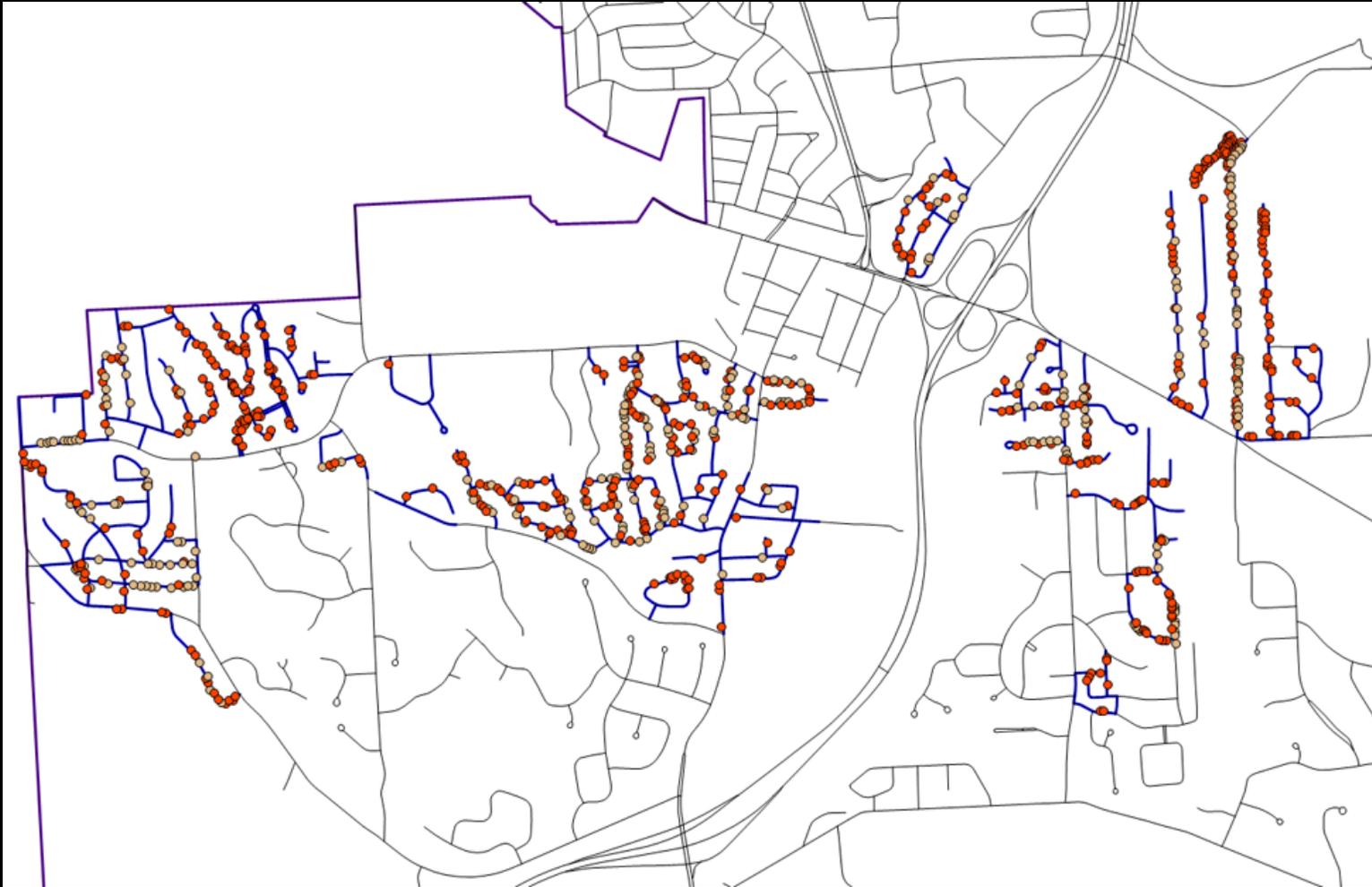
# Summary – DeWitt Inventory

## Annual Street Tree Benefits (\$)

Community	# Trees	Energy	CO2	Air Quality	Stormwater	Aesthetic/ Other	Total	Benefits per Tree
Buffalo	57,129	2,859,429	70,328	509,498	657,305	2,550,143	6,646,705	116.35
Rochester	67,411	3,596,905	88,529	637,979	807,709	3,277,560	8,408,680	124.74
Syracuse	39,479	1,965,333	47,881	352,483	454,390	1,793,250	4,613,336	116.86
DeWitt	1531	78,883	1,859	14,532	19,173	63,244	177,692	116.06

- Large, tall growing species provide most environmental and social benefits
- Replacement Value: All Trees: \$7,564,960

# Summary – DeWitt Inventory



- 501 Planting Spaces (orange): no wires
  - 66.36% of Total Planting Spaces

## Recommendations – DeWitt Inventory

- New planting should not emphasize Maples, especially Norway and Sugar Maples. With the threat of the Emerald Ash Borer, do not plant Ash trees.
- Although deferred maintenance on older trees is a priority, at least some annual planting is necessary to replace aging trees.
- All trees with a “Consult Needed” designation should be evaluated by a certified arborist.

## Recommendations – DeWitt Inventory

- New planting should be concentrated in areas with no wire conflicts in order to maximize environmental benefits.
- Keep inventory up-to-date as new planting is added and trees are removed or pruned.



Community  
Forestry  
Program  
Work Team,  
Cornell Univ.



[Community Forestry  
Home Page](#)

[Community Forestry Planning](#)

- [Developing a Master Plan](#)
- [Acknowledgments \(work team members\)](#)

**Conducting a Street Tree  
Inventory**

- [Street Tree Project History](#)
- [Hiring the SWAT Team](#)
- [Using the Inventory](#)
  - [Inventory Methodology](#)
  - [Using Excel 2003](#)
  - [Using Excel 2007](#)
  - [Using STRATUM](#)
- [Updating the Inventory](#)

[Resources](#)

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## Community Forestry Conducting a street tree inventory

### Introduction

This program offers smaller communities in New York State a cost-effective opportunity to obtain an inventory of all trees and planting spaces within the municipal right-of-way. Having an inventory is essential to developing a master plan to promote the long term health of the community forest and maximize the benefits it provides. Depending on the size of your



community and the availability of personnel, the SWAT Team can be hired to conduct an inventory. Consult the pages in this section to learn more about the SWAT approach to street tree inventories and to determine whether a SWAT inventory would be appropriate for your community.

**Student Weekend Arborist Team (SWAT)** - In 1 or 2 weekend days, trained groups of individuals consisting of Cornell University students and Master Gardeners from Cooperative Extension perform an inventory of your community trees for a fee plus expenses:

# SWAT: Student Weekend Arborist Team



Questions?