CHICAGO REGION TREES INITIATIVE

Our Trees.
Our Communities.
Our Future.

Using urban forest data to improve health and quality of life in the Chicago Region

Chicago Region Trees Initiative

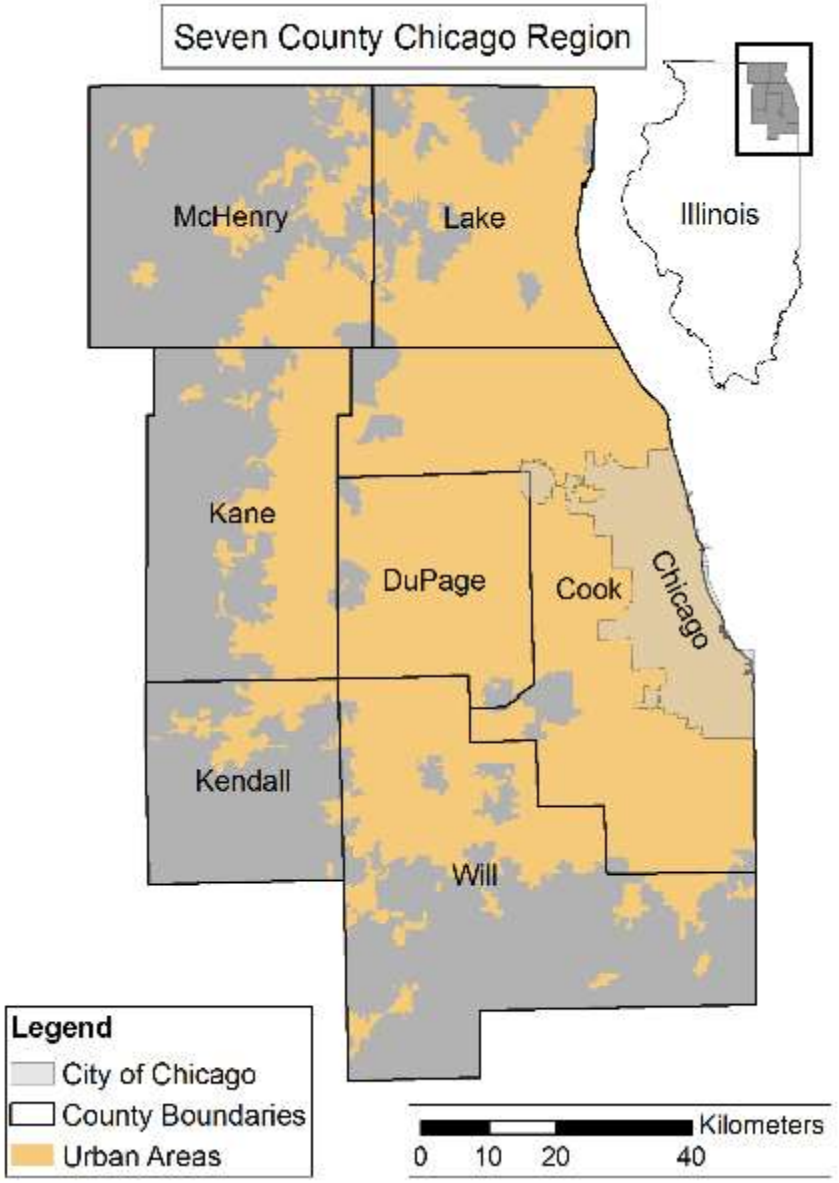
To preserve, protect and enhance our urban forest resulting improved quality of life.

Urban Trees and Forests of the Chicago Region

Feature	Measure
Number of trees	157,142,000
Tree and shrub canopy cover	21.0%
Tree cover	15.5%
Most dominant species by:	
Number of trees	European buckthorn, green ash, boxelder, black cherry, American elm
Leaf surface area	silver maple, boxelder, green ash, European buckthorn, black walnut
Trees < 6 inches diameter (%)	73.3%
Pollution removal	
Trees	18,080 tons/year ($137 million/year)
Trees and shrubs[a]	24,170 tons/year ($183 million/year)
VOC emissions	11,976 tons/year
Carbon storage	16.9 million tons ($349 million)
Carbon sequestration	677,000 tons/year ($14.0 million/year)
Building energy reduction	$44.0 million/year
Reduced carbon emissions	$1.3 million/year
Compensatory value	$51.2 billion

Nowak et al., 2013

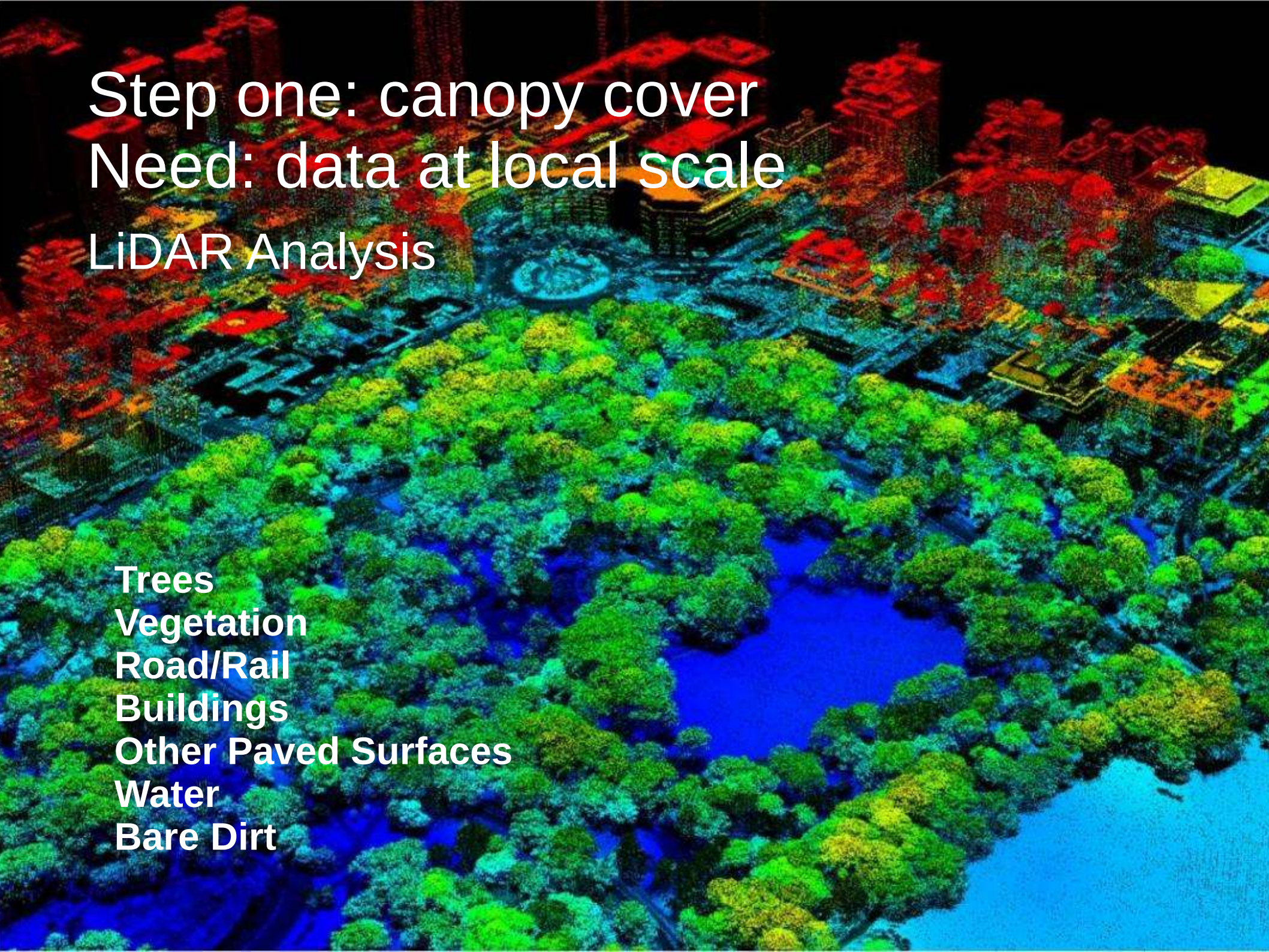
The Chicago Region Trees Initiative

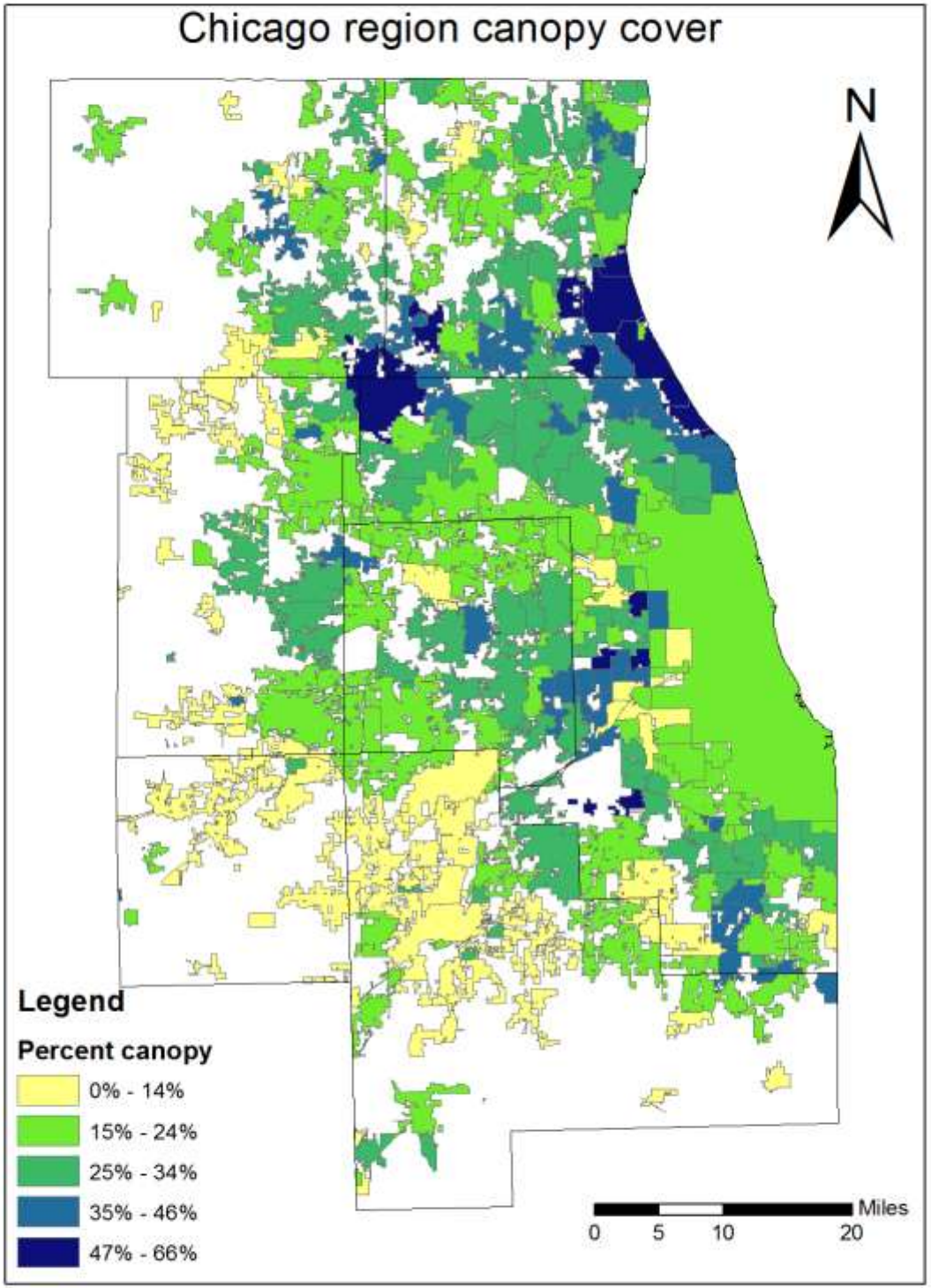


8.4 million people
7 counties
284 municipalities
~75 park districts

157 million trees

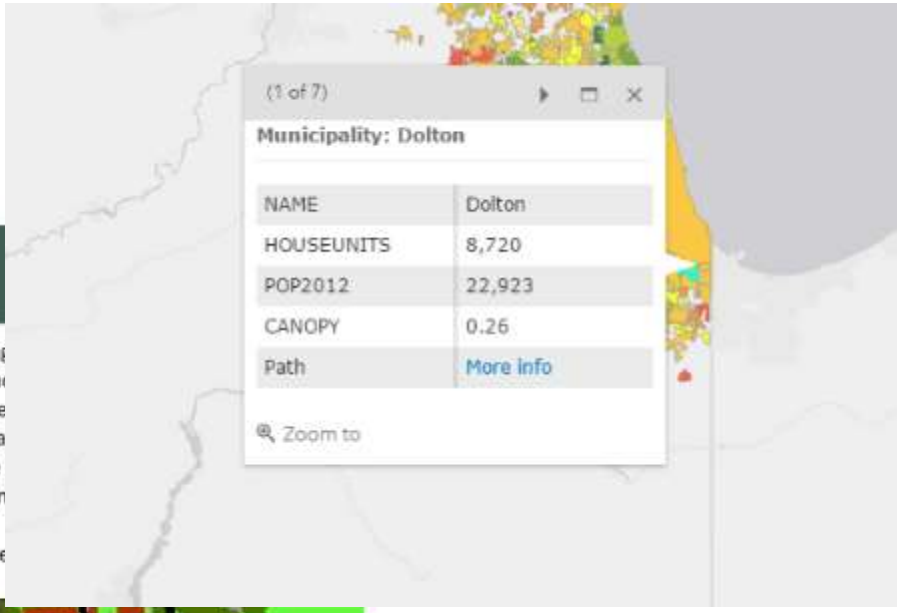
30% invasive species
8% ash losses
(13 million trees)


Step one: canopy cover
Need: data at local scale
LiDAR Analysis
Trees
Vegetation
Road/Rail
Buildings
Other Paved Surfaces
Water
Bare Dirt


Chicago region canopy cover
N
Legend
Percent canopy
0% - 14%
15% - 24%
25% - 34%
35% - 46%
47% - 66%
Miles
0
5
10
20

CRTI Forest Canopy Summaries

284 Communities

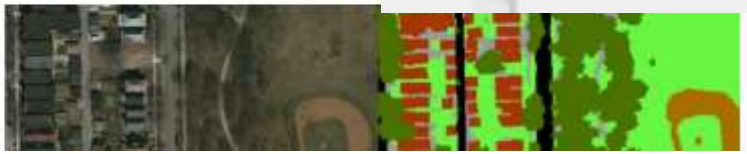


Dolton Urban Forest Canopy Summary

The Chicago Region Trees Initiative (CRTI) goal is that, by 2050, the Chicago Region will support and host a healthier urban forest, comprised of a diversity of tree species and ages, appropriately distributed across land use types in the region. The forest will provide the region improved environmental, economic, and social benefits. In order to achieve that goal CRTI works with a

The *urban forest* is comprised of all of the trees in an urban setting them. It is made up of street trees, forested natural areas and even th trees are all included in the urban forest, because they all provide be They improve air and water quality, reduce flooding and the urban hea by shading buildings. Trees provide habitat for wildlife and improve crime rates, increasing property value and boosting social cohesion in n

The magnitude of benefits that trees provide correlates with the canopy. Understanding the extent of tree canopy is critical for urban planning. Canopy maps can be used to quantify the benefits that their trees provide, identify

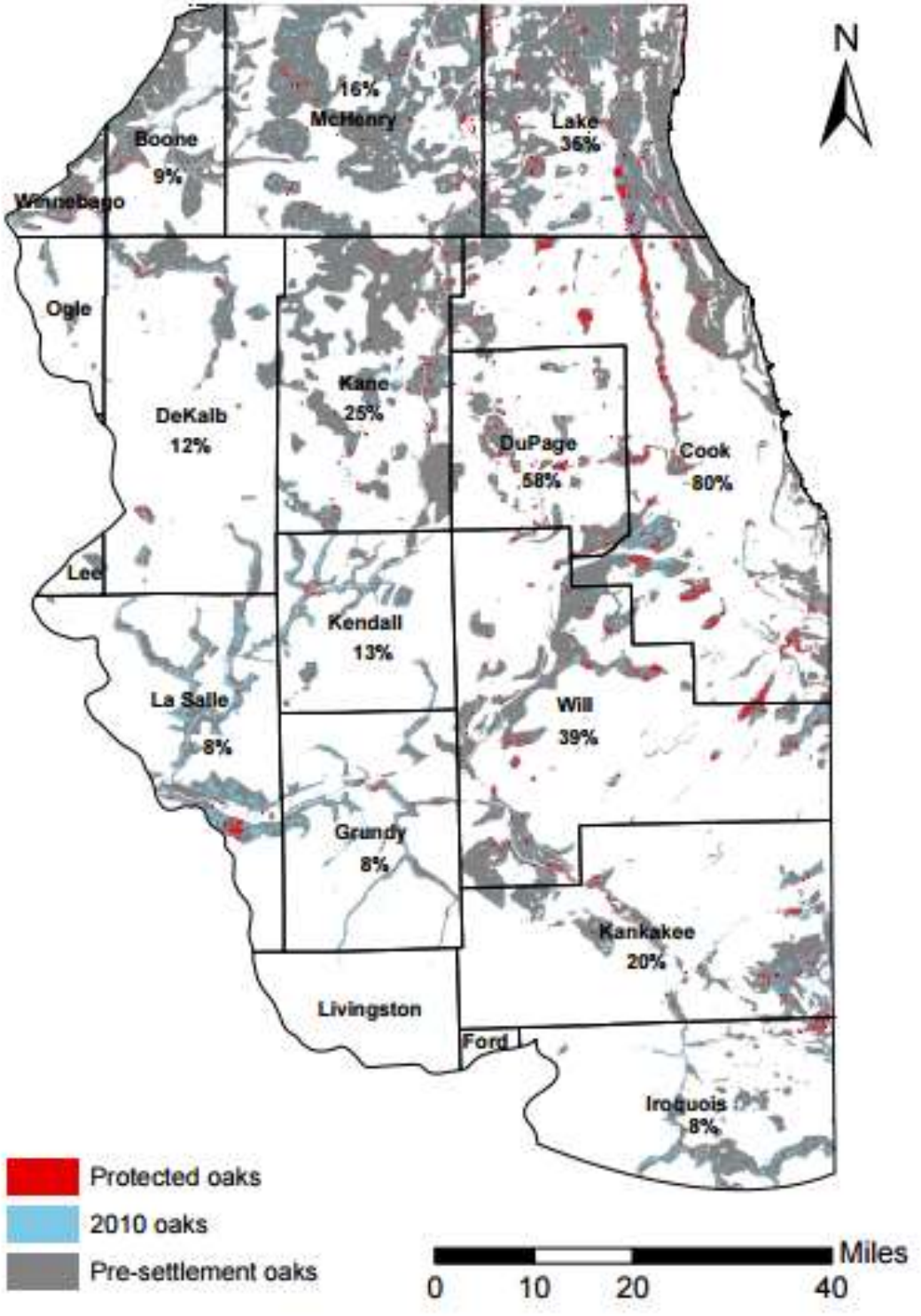


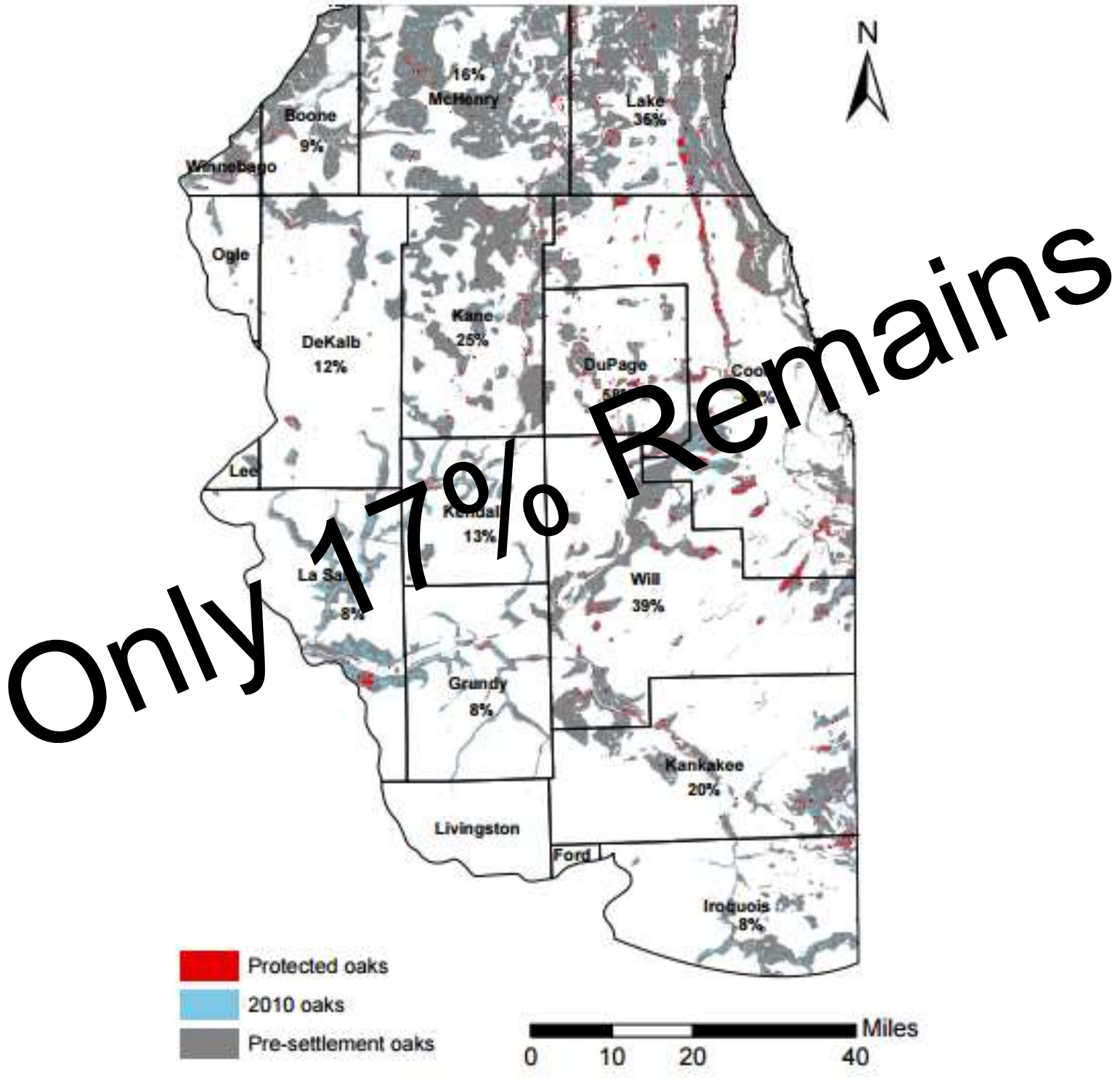
Step two: tree species

Tree Census
Public Inventories
Private inventories

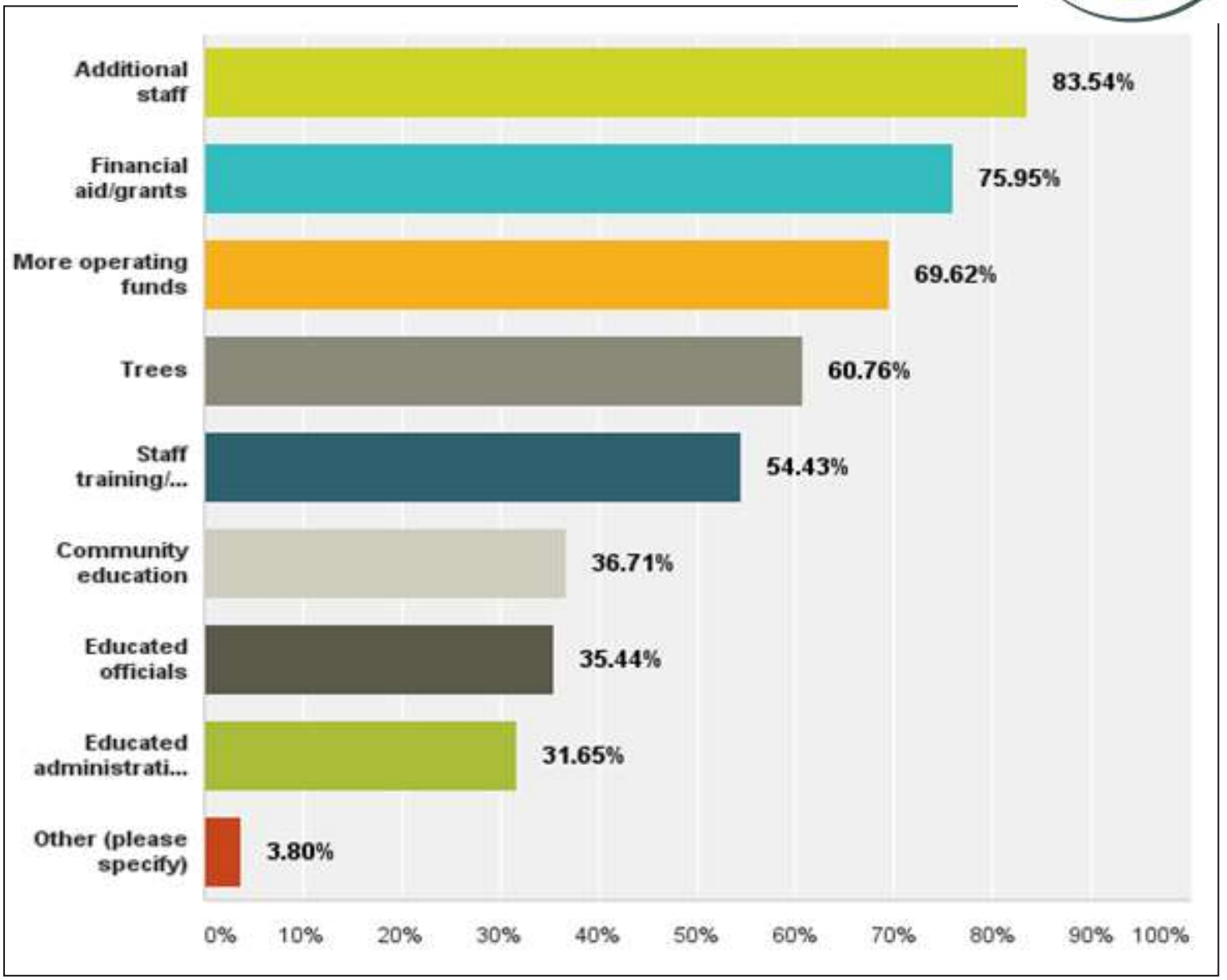
Abundance rank	All land use	Municipal trees	Private property
First	*Rhamnus* 28.2%	*Acer* 32.9%	*Rhamnus* 24.4%
Second	*Acer* 12.4%	*Fraxinus* 15.9%	*Acer* 17.5%
Third	*Fraxinus* 8.1%	*Gleditsia* 11.5%	*Picea* 6.9%
Fourth	*Prunus* 6.0%	*Tilia* 7.0%	*Ulmus* 5.2%
Fifth	*Ulmus* 5.2%	*Ulmus* 5.3%	*Quercus* 4.7%

Step three:
Oak ecosystems




Only 17% Remains
N
16%
McHenry
Lake
36%
Boone
9%
Winnebago
Ogle
Kane
25%
DeKalb
12%
DuPage
Lee
13%
Will
39%
La Sa
8%
Grundy
8%
Kankakee
20%
Livingston
Ford
Iroquois
8%
Protected oaks
2010 oaks
Pre-settlement oaks
Miles
0
10
20
40

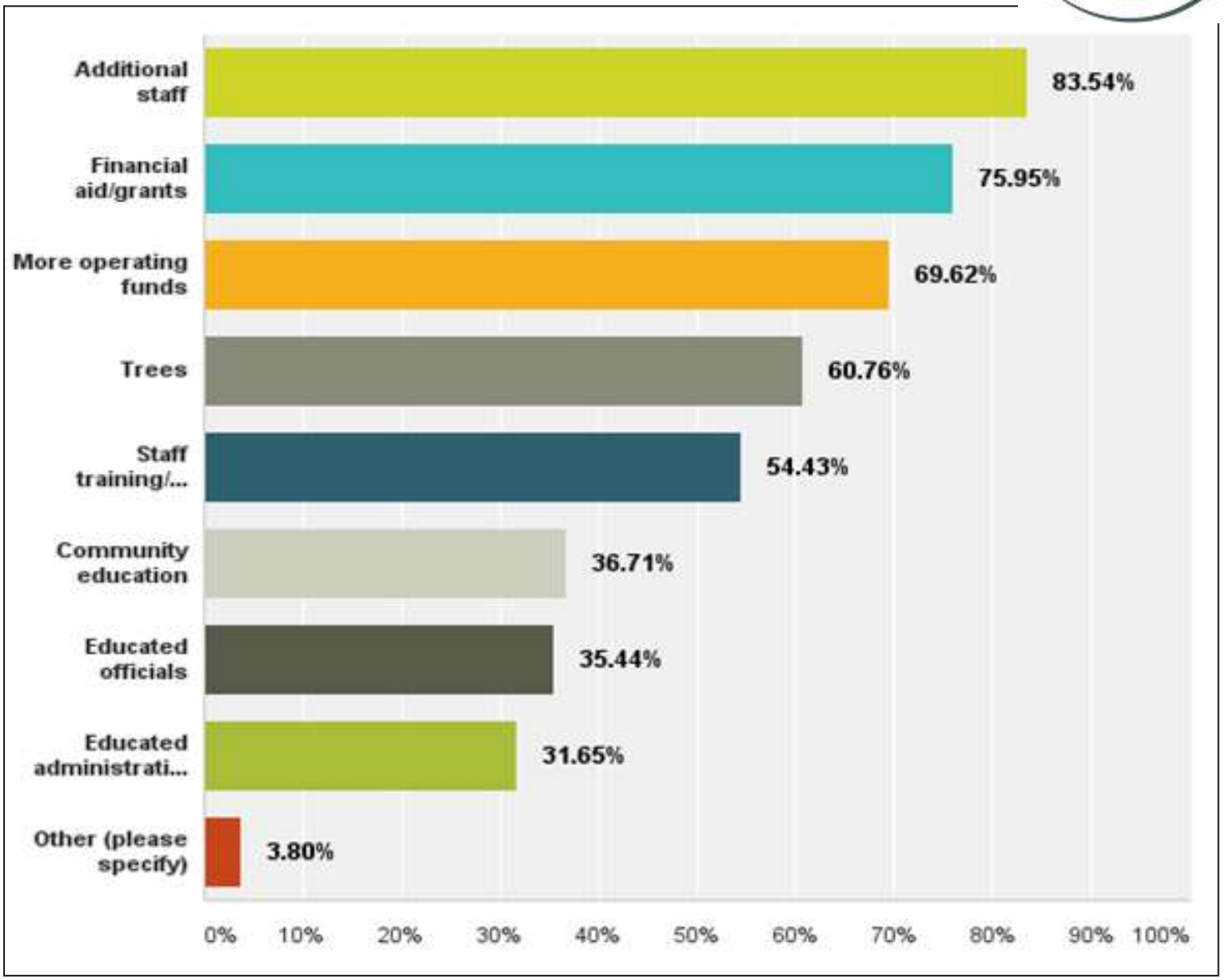
Step four: capacity to care for trees

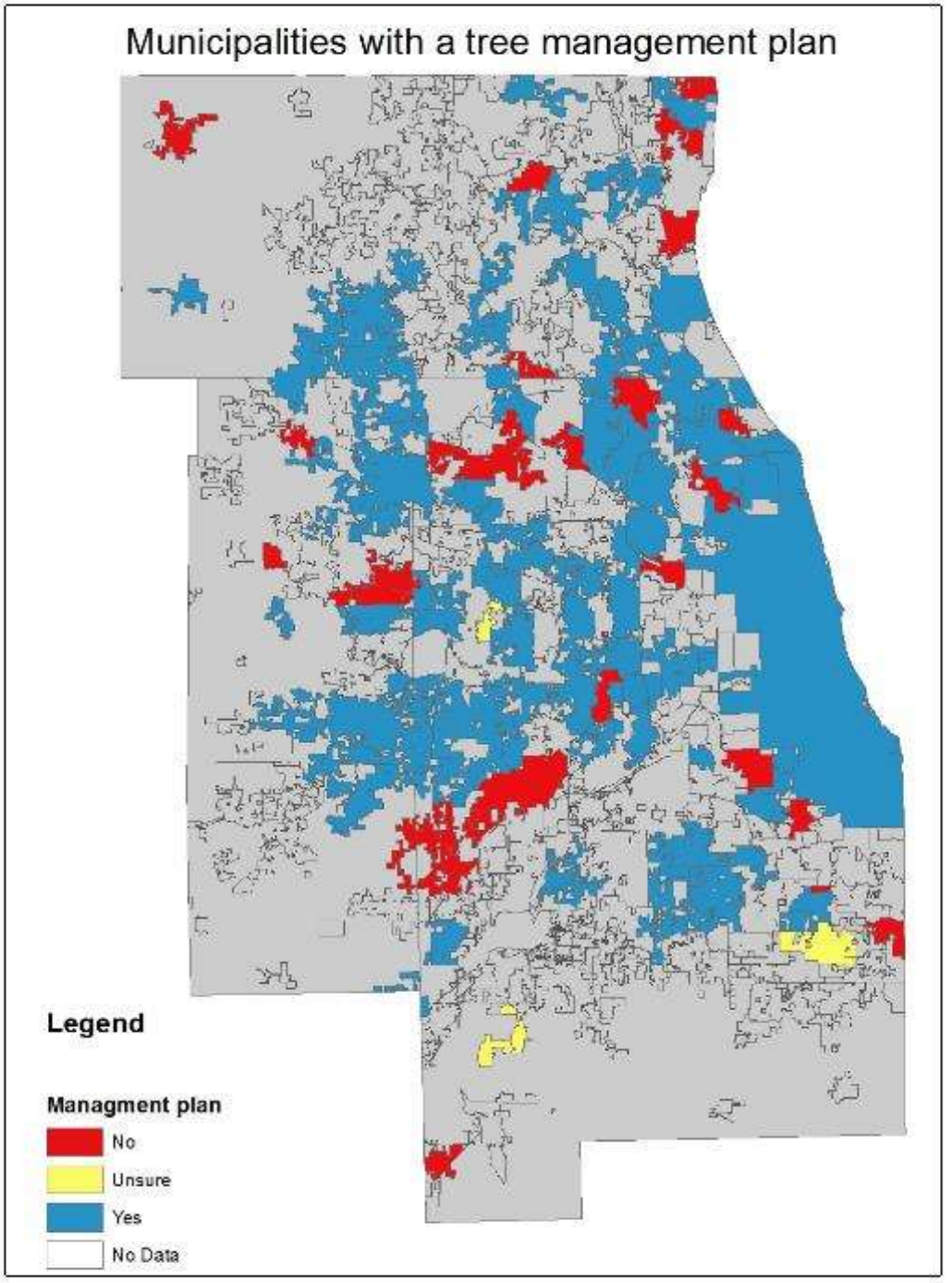


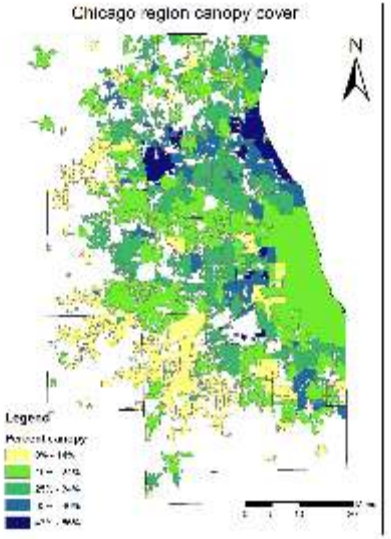
Step four: capacity to care for trees

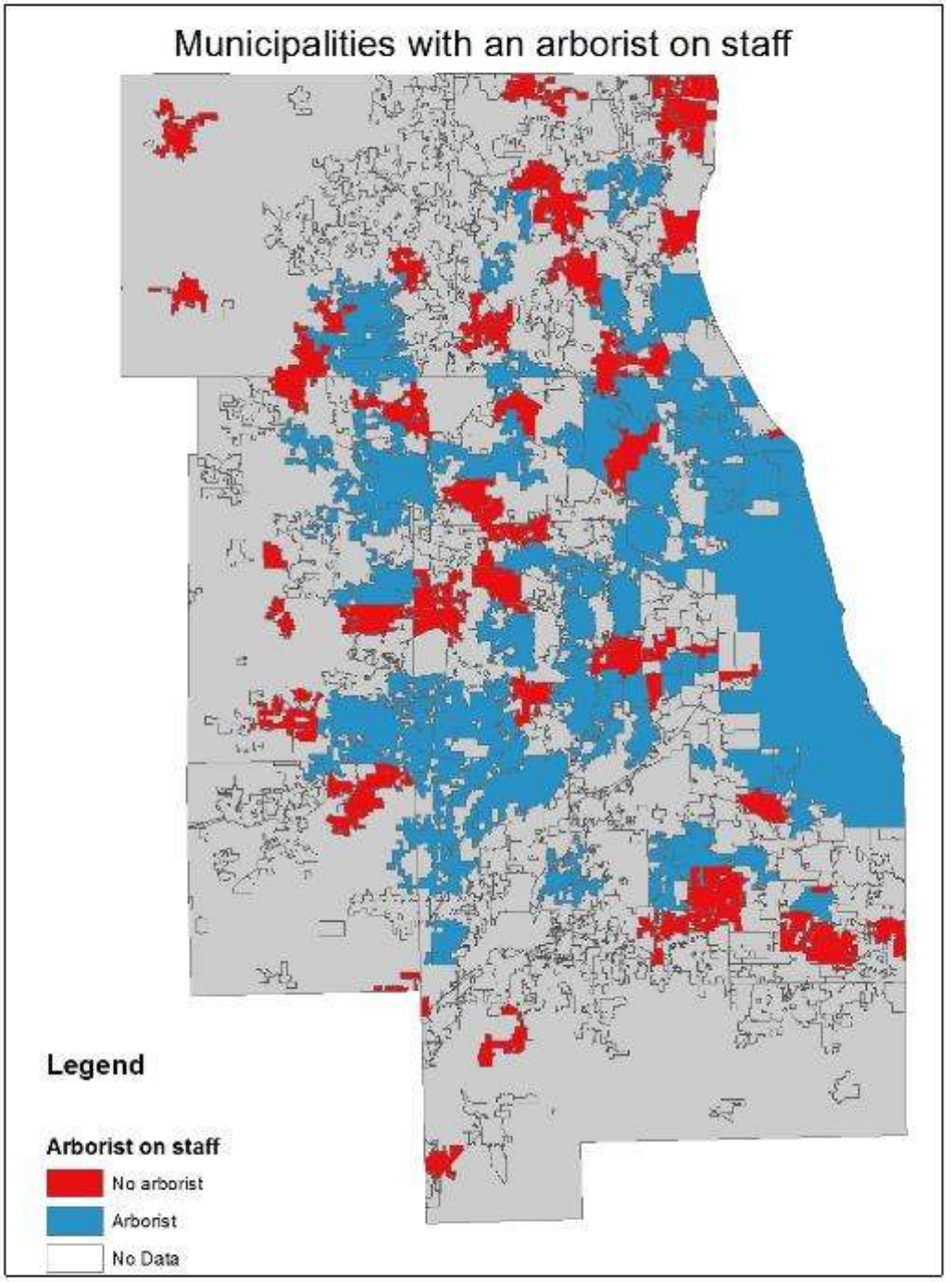
2014 Priorities Focus Ash Removals

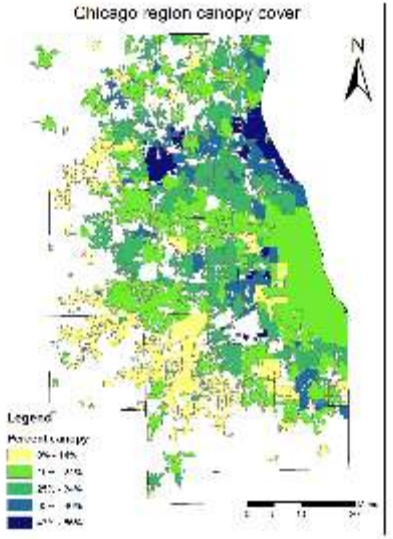
2016 Priorities?

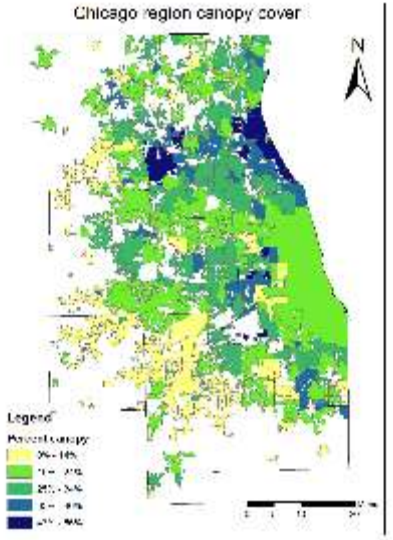



Municipalities with a tree management plan
Legend
Managment plan
No
Unsure
Yes
No Data

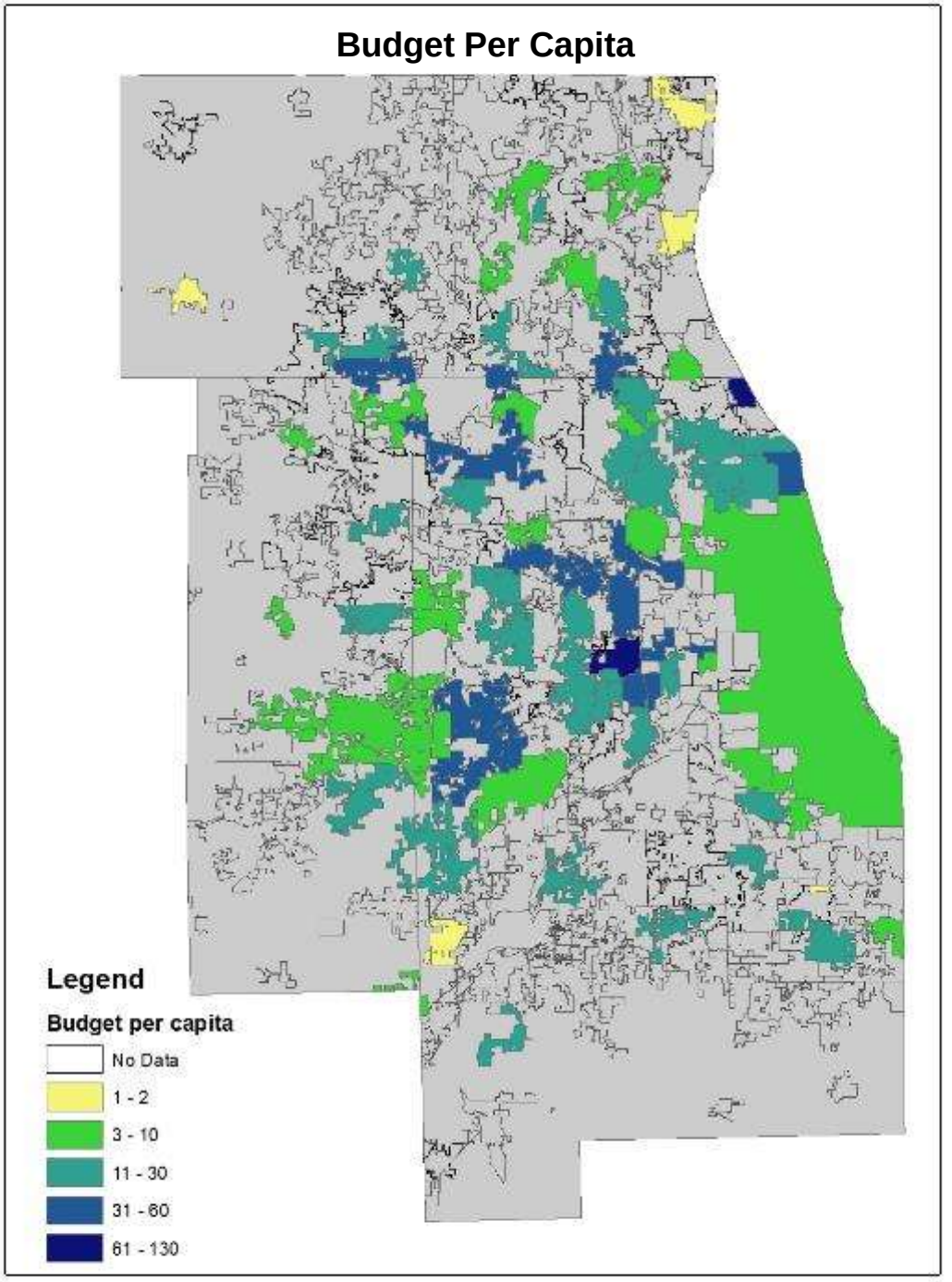

Chicago region canopy cover
N
Legend


Municipalities with an arborist on staff
Legend
Arborist on staff
No arborist
Arborist
No Data


Chicago region canopy cover
N
Legend

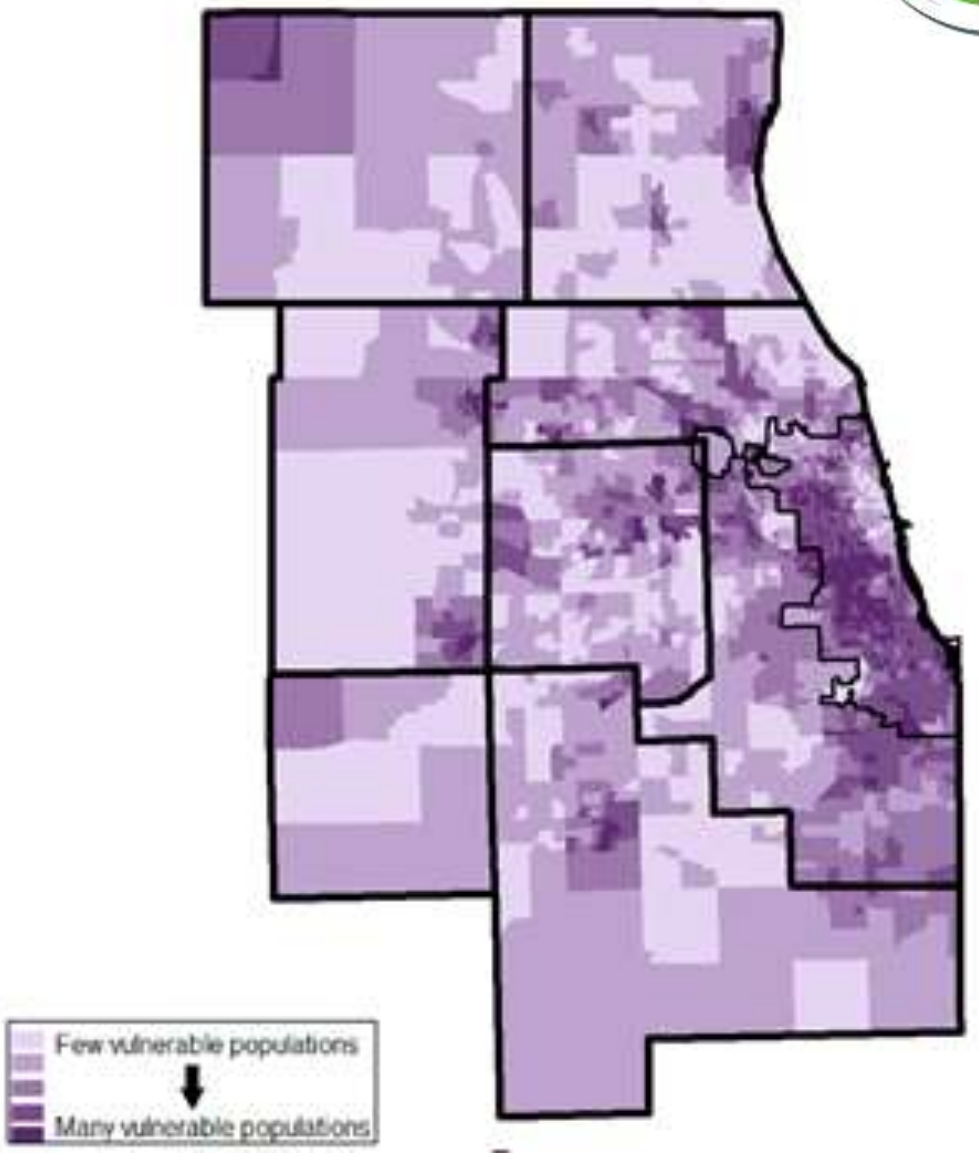


Budget Per Capita



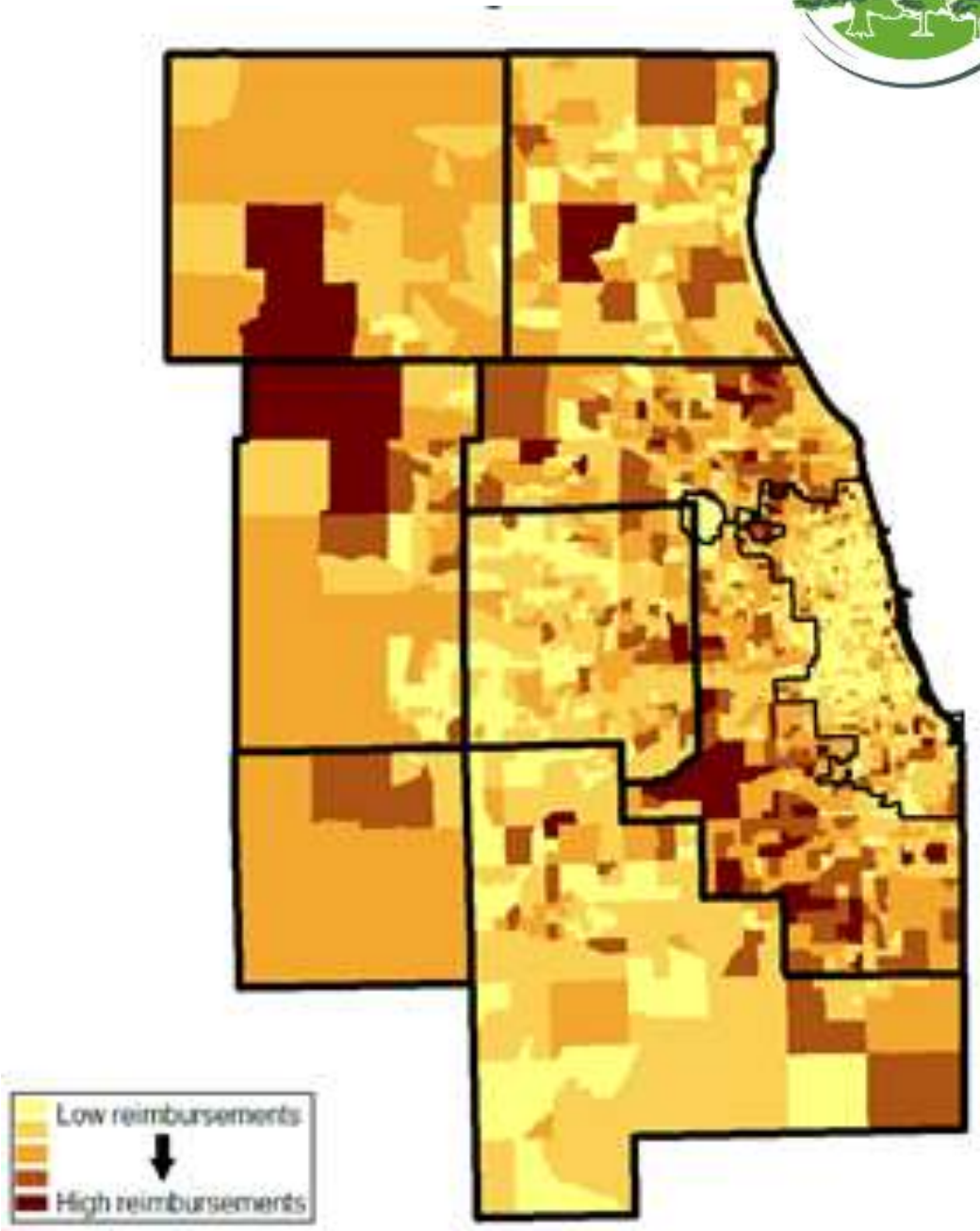
Step five: Community priorities

Vulnerable human populations



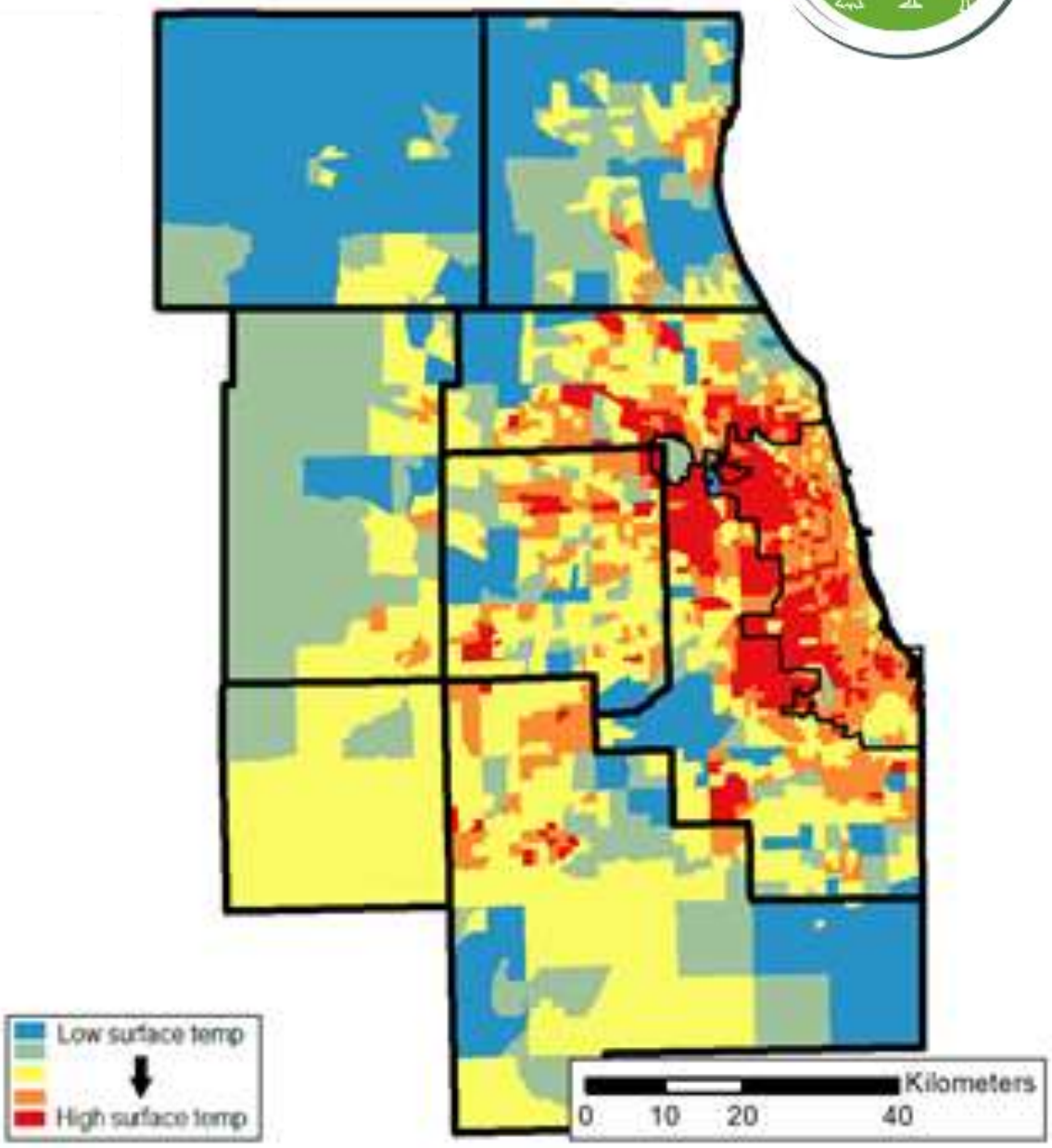
Step five: Community priorities

Medicaid reimbursements



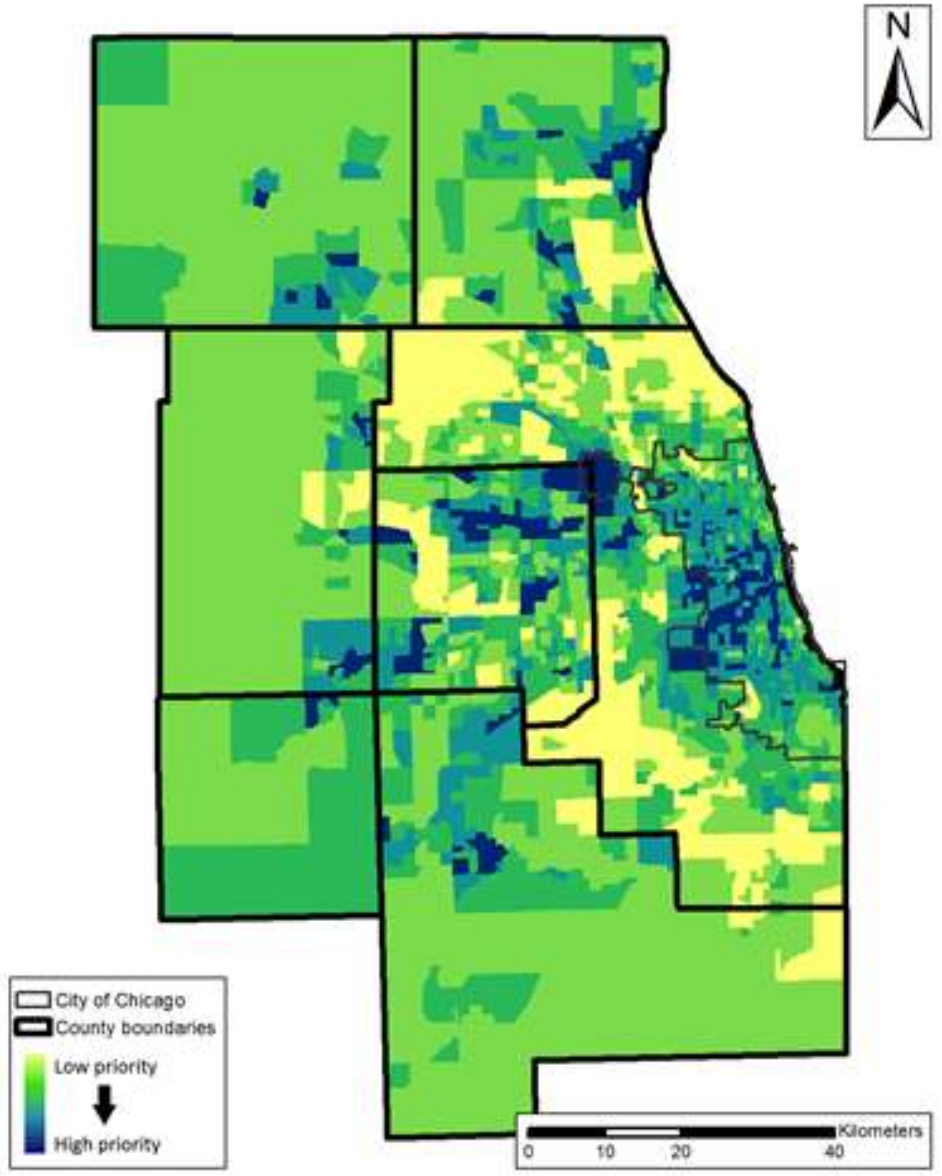
Step five: Community priorities

Surface temperatures



Step six: Prioritize

Data drives our work!



Step six: Prioritize

Community Name	County	Site Type	Population	# Tree Keepers	Mgmt Plan	Dedicated Forestry Staff	TCUSA	Canopy Cover %	Vegetation %	Soil %	Water %
Lisbon	Kendall	Municipality	963					2.90%	82.78%	10.26%	0.43%
Manhattan	Will	Municipality	7,017					4.44%	75.82%	1.70%	3.03%
Pingree Grove	Kane	Municipality	5,062			yes		5.32%	72.56%	2.19%	6.78%
Virgil	Kane	Township	347					6.29%	89.35%	0.22%	0.22%
Burlington	Kane	Municipality	2,007					6.45%	90.54%	0.06%	0.67%
McCook	Cook	Municipality	212					6.89%	19.66%	35.08%	3.19%
Bedford Park	Cook	Municipality	604					7.28%	17.68%	11.76%	4.44%
Elwood	Will	Municipality	2,165					7.54%	54.16%	1.63%	3.22%
Huntley	McHenry	Municipality	25,200		Yes	Yes		8.05%	66.56%	1.03%	3.54%

Building %	Roads/Rail %	Other paved %	Median Income	%below Poverty	% Disability	%Food Stamps	% Unemployment	Education at High School Level	Census Data Source
0.86%	1.95%	0.83%	83,281	7.9	5.4	6.4	6.1	90.6	2014 ACS 5-year estimates
3.96%	6.84%	4.22%	80,918	3.7	7.0	3.2	6.4	96.7	2014 ACS 5-year estimates
3.67%	4.43%	5.06%	76,211	25.4	6.0	5.5	6.0	91.3	2014 ACS 5-year estimates
0.95%	1.60%	1.37%	53,369	4.5	8.8	5.6	6.1	94.9	2014 ACS 5-year estimates
0.42%	1.23%	0.63%	81,296	10.5	5.3	8.0	7.8	96.9	2014 ACS 5-year estimates
9.31%	8.17%	17.70%	43,333	7.1	13.2	6.7	6.8	90.9	2014 ACS 5-year estimates
16.96%	13.68%	28.20%	54,821	12.4	9.9	9.6	10.0	81.4	2014 ACS 5-year estimates
6.67%	7.42%	19.36%	65,240	14.8	11.3	7.9	8.8	94.8	2014 ACS 5-year estimates
7.90%	4.65%	8.27%	75,792	1.1	7.6	1.3	3.0	95.5	2014 ACS 5-year estimates

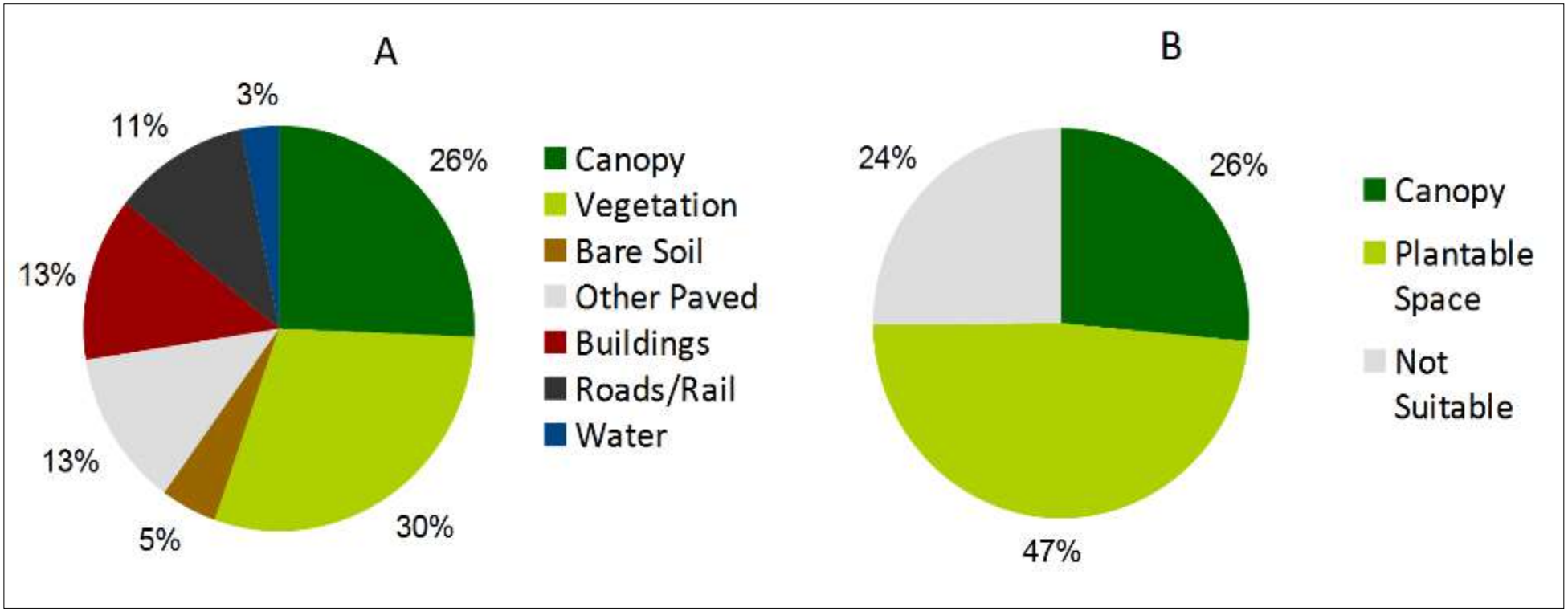
Step seven: Application

Acting locally, to plant and protect trees in the Chicago region

Case study: Village of Dolton Community focus

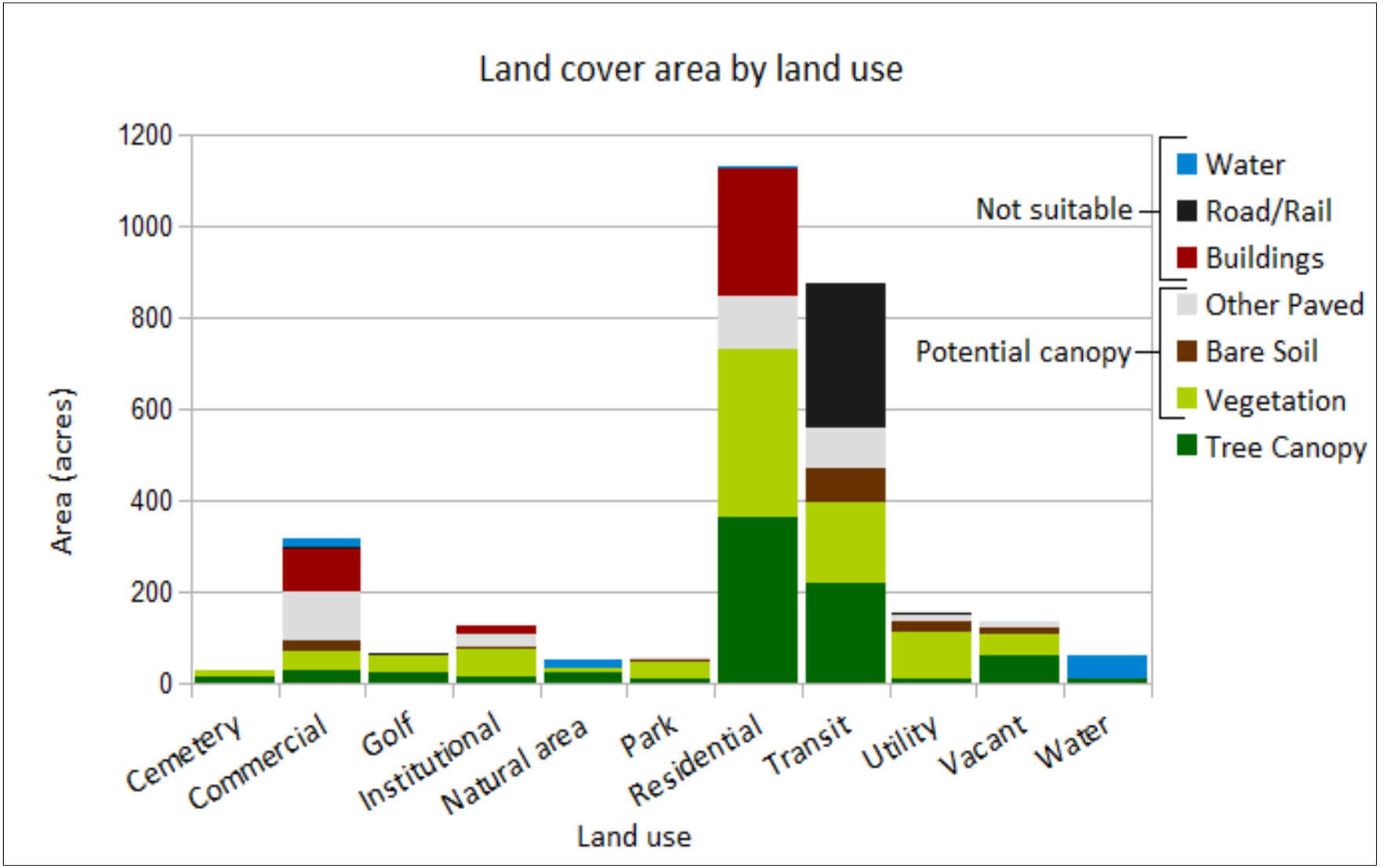
Public Works Department – no forestry staff
Funding for tree removals due to emerald ash borer
Decision maker focus – crime reduction
No community stewardship group
No community tree inventory
No tree management plan
No community tree preservation ordinance
Population dropped by 9% since 2000

Case study: Village of Dolton



Land cover (A) and possible planting space (B)

Case study: Village of Dolton



Resources

Dolton: Community Tree Inventory

Ball State University and DePaul University
Research – Virtual Inventory
Student on the ground inventory

Community engagement

Develop stewardship programs

- Community Tree Champions
- Openlands TreeKeepers

Urban Forestry Basic Training

Community Tree Network

Urban Forest Management Plan

TEMPLATE to be used as a guide

(Insert organization name)
Urban Forestry Management Plan

(Insert Organization Name Here)

Urban Forestry Management Plan

(Insert organization's logo)

Tree Preservation Ordinances

Tiered Tree Ordinance Templates

Bronze

Silver

Gold

Species Diversity

Tree Selector

Find trees that thrive in northern Illinois. Select your location, site conditions, and preferences to get a side-by-side comparison for choosing the best tree for your circumstances. All trees found on the Northern Illinois Tree Selector are hardy for zones 5 and 6. Search results appear alphabetically by scientific name. If no results appear for [illegible] criteria, click "refine search" and deselect criteria for broader results. Email us at plantclinic@ [illegible] estions or comments.

WHAT IS YOUR SITE?

Residential and parks

IS IT UNDER UTILITY LINES?

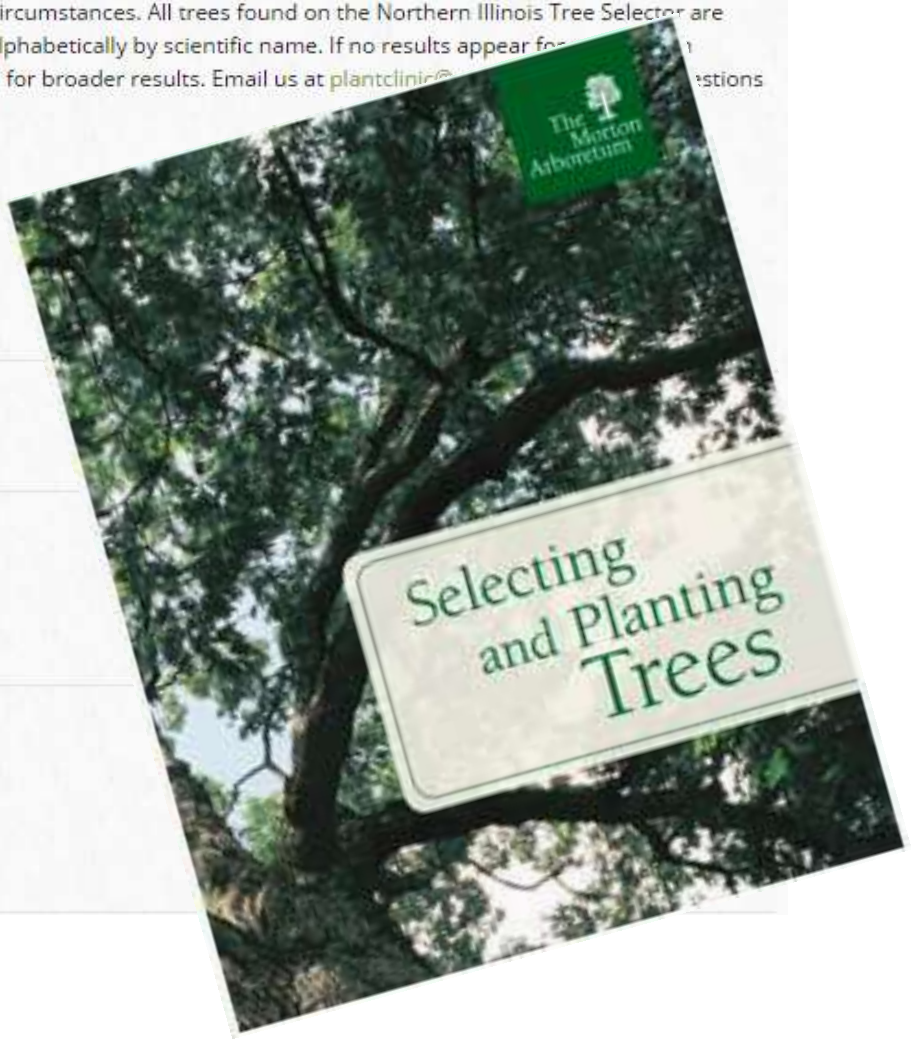
- [ ] Yes

DESCRIBE YOUR SUN EXPOSURE

- [ ] Full sun (6 hrs direct light daily)
- [ ] Partial sun/shade (4-6 hrs light daily)
- [ ] Full shade (4 hrs or less of light daily)

WHAT SIZE TREE BEST FITS IN YOUR SITE?

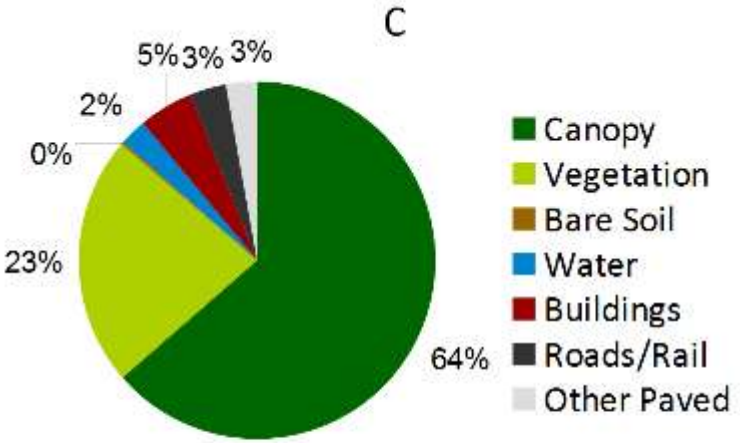
- [ ] Large tree (more than 40 feet)
- [ ] Medium tree (25-40 feet)
- [ ] Small tree (15-25 feet)
- [ ] Compact tree (10-15 feet)

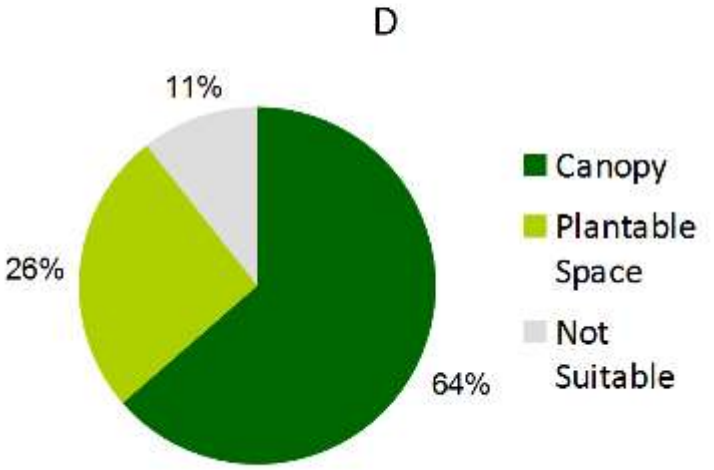


Case Study: Oak ecosystems Village of Riverwoods

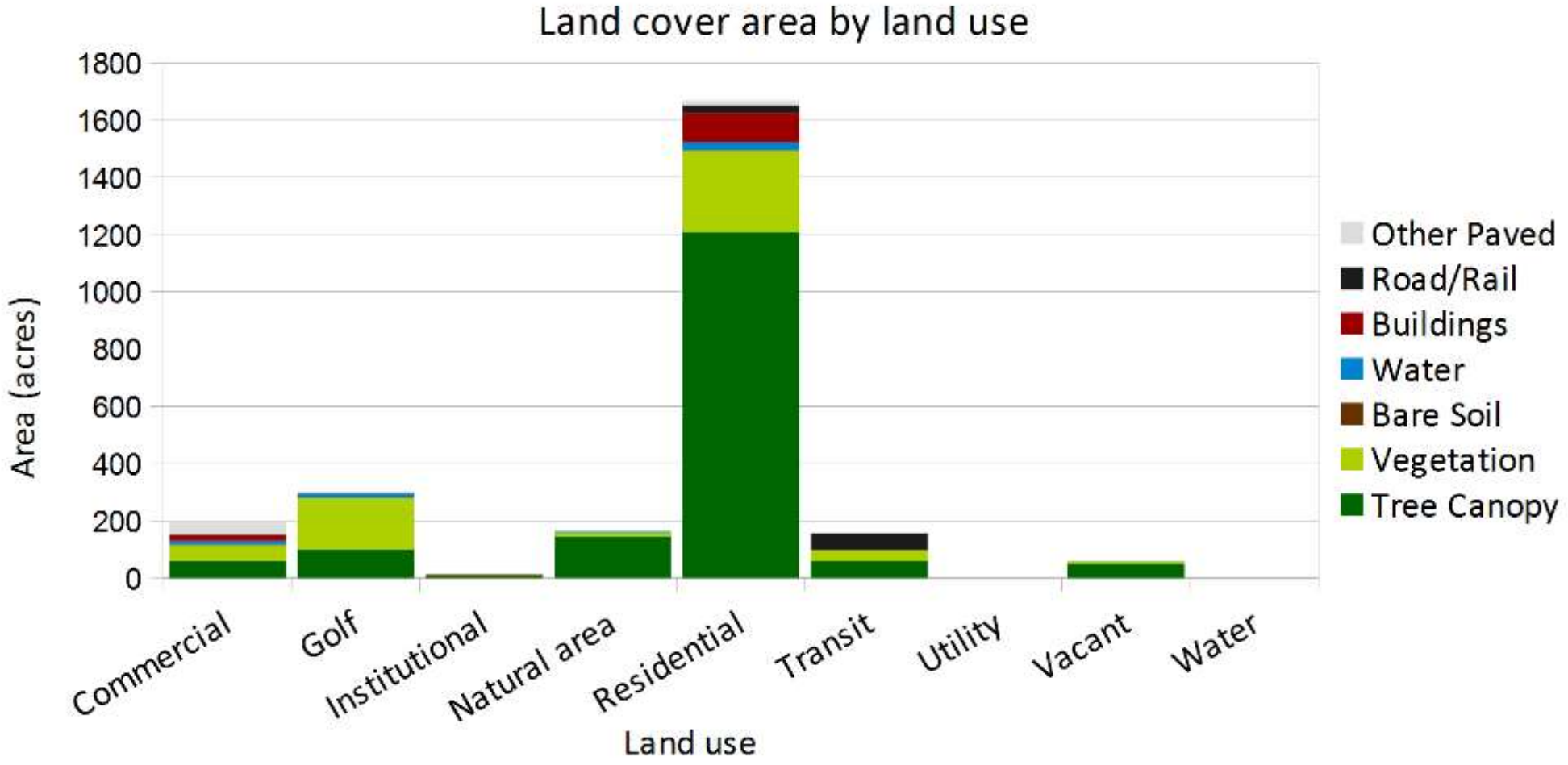
Case Study: Village of Riverwoods

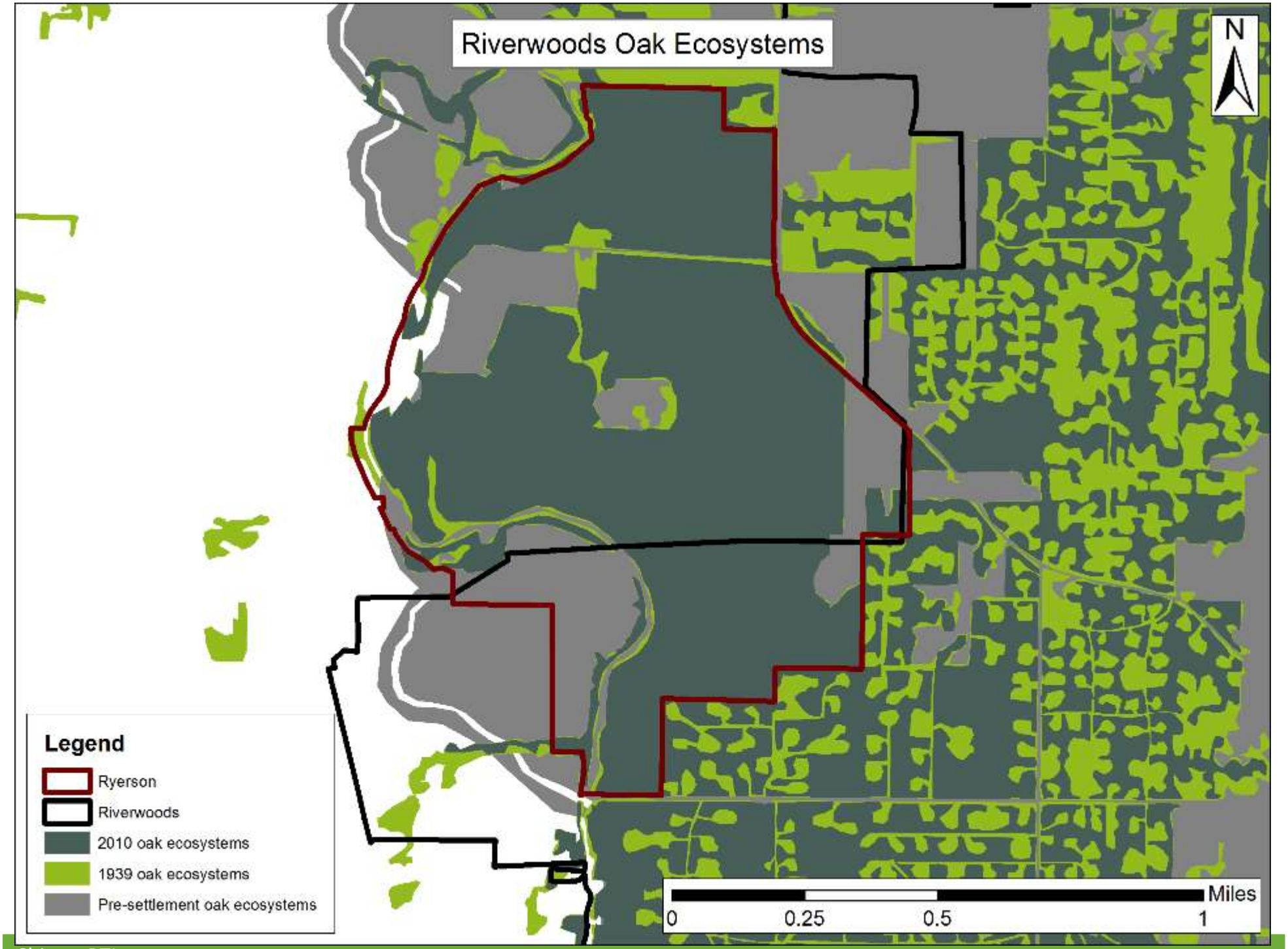
No tree inventory

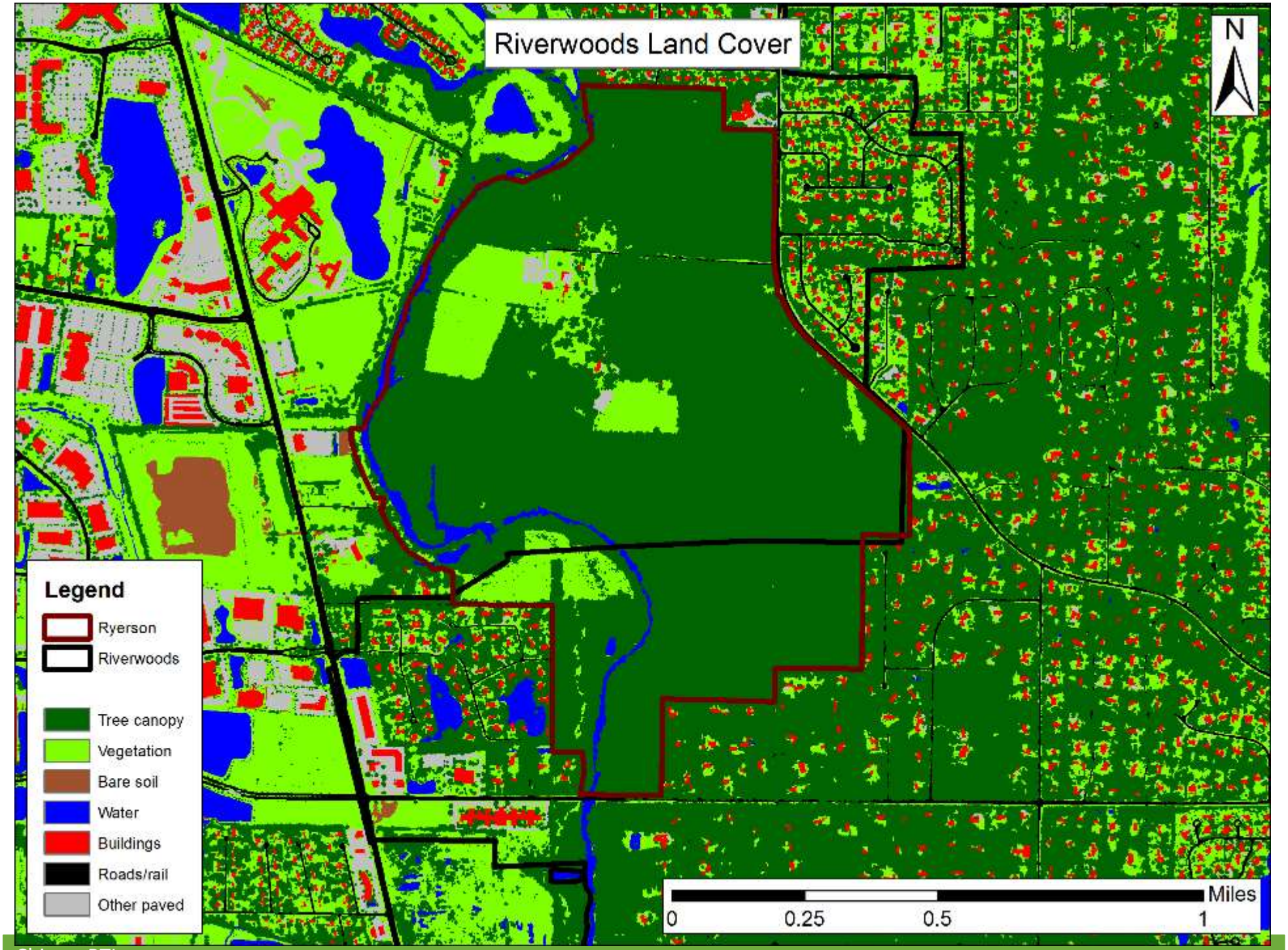




Case Study: Village of Riverwoods




Riverwoods Oak Ecosystems
N
Legend
Ryerson
Riverwoods
2010 oak ecosystems
1939 oak ecosystems
Pre-settlement oak ecosystems
Miles
0
0.25
0.5
1


Riverwoods Land Cover
N
Legend
Ryerson
Riverwoods
Tree canopy
Vegetation
Bare soil
Water
Buildings
Roads/rail
Other paved
Miles
0
0.25
0.5
1

Nursery support

Expanded Diversity & Contract Growing

Native Species Production

Increased public/private partnerships

Results: **Trees are the cornerstone of ecosystems and play a role in ensuring healthy lives and healthy communities.**

Results:

Increased species
and age diversity

Results:

Increased species and age diversity

Informed and engaged decision makers

Results:

Increased species and age diversity

Informed and engaged decision makers

Improved policies – management plan and ordinances

Results:

Increased species and age diversity

Informed and engaged decision makers

Improved policies – management plan and ordinances

Expanded resources through trained stewardship

Results:

Increased species and age diversity

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Improved policies – management plan and ordinances

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Improved professionalism of staff

Increased community interaction

Results:

Healthier oak ecosystems

Increased species and age diversity

Informed and engaged decision makers

Increased public private partnerships

Improved policies – management plan and ordinances

Improved understanding or trees as infrastructure

Expanded resources through trained stewardship

Increased community interaction

Improved professionalism of staff

Results:

Trees are the cornerstone of ecosystems and play a role in ensuring healthy lives and healthy communities.

It is a process!

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Our Future.

Lydia Scott, Director
lscott@mortonarb.org