



Town of Holly Springs
Tree Advisory Committee
6:00 PM **Monday, October 9, 2023**

Regular Meeting
Holly Springs Town Hall Council Chambers
128 S. Main Street, 2nd Floor

Agenda

- 1. Call to Order (6:00 | Rachel Woods)**
- 2. Agenda Adjustment (6:01 | Rachel Woods)**
- 3. Minutes (6:02 | Rachel Woods)**
 - a. Meeting Minutes
- 4. Special Presentations (6:05)**
 - a. Wake County Land Cover Analysis and Tree Canopy Assessment
- 5. General Business**
 - a. Street Tree Replacement Program Update
 - b. Holly Fest Planning
 - c. 2023 Tree City USA Application
 - d. Arbor Day & Creek Week Planning
- 6. Other Business (7:15)**
- 7. Next Meeting (7:25 | Gina Clapp)**
- 8. Adjournment (7:30 | Rachel Woods)**

In accordance with ADA regulations please contact the Town Clerk's office at least 48 hours before the meeting to request an auxiliary aid or service needed to participate in this meeting:

linda.mckinney@hollyspringsnc.us 919-557-3900



Town of Holly Springs

Tree Advisory Committee

Minutes: July 10, 2023

Development Services • 128 S. Main Street • P.O. Box 8 • Holly Springs, NC 27540

Agenda Item 1: ROLL CALL

The Tree Advisory Committee met on Monday, July 10, 2023 in Town Hall at 128 South Main Street at 6:01 P.M. when quorum was established.

Members Present: Kelly Oten, Chair
Ginny Suever
Russell Lichtenstein
Eric Dean

Members Absent: Marissa Parker, Vice-Chair

Ex-Officio
Members Present: Danielle Hewetson, Town Council Representative
Chris Deshazor, Planning Board Representative
Sarah Larson, Parks & Rec Advisory Committee

Ex-Officio
Members Absent: Susan Smith,
Bridget Peters, Junior Member

Staff Present: Sean Ryan
Cheryl Caines
Conor Ryan
Aaron Prichard
Brett Gosney

Others Present: None

Agenda Item 2: Agenda Adjustment

No Agenda Adjustments

Agenda Item 3: Minutes

Motion to approve the minutes for the January 9, 2023 meeting.

Motion by: Chris Deshazor
Seconded by: Danielle Hewetson
Action: *The committee voted in favor of the motion. (4-0)*

Agenda Item 4: TAC Board Updates

- a. *New & Returning Members*
Aaron Prichard provided an update on the new and returning members.

b. Election of Officers

Motion to elect Kelly Oten as the Chair of the Tree Advisory Committee.

Motion by: Chris Deshazor

Seconded by: Danielle Hewetson

Action: *The committee voted in favor of the motion. (4-0)*

Motion to elect Marissa Parker as the Vice Chair of the Tree Advisory Committee.

Motion by: Russell Lichtenstein

Seconded by: Eric Dean

Action: *The committee voted in favor of the motion. (4-0)*

Agenda Item 5: Tree City USA

a. Tree Advisory Committee Annual Work Plan

Aaron Prichard provided an update on the changes to the work plan from the previous meeting. The plan is now broken out by months rather than by sections of months. It highlights when the events are occurring and when planning will need to begin for those events. The work plan does call for the “wild about nature” event in May and it will continue to be on the calendar for future years, but one event is still needed for this year. Some options include having a farmers market pop up in September, decorating the tree in Ting Park in December, or others that may be suggested.

Mrs. Oten asked about this being needed this year when there are highlighted events on the work plan.

Mr. Prichard stated that this is needed for just this year only.

Mr. Deshazor asked about the budget being potentially an issue for another event this year.

Mr. Prichard stated that it could be mostly an information event and hand out “swag” that the town already has.

Mrs. Oten stated that this would be a good event to spread awareness regarding the Street Tree Replacement Program. There is not a preference on when to hold this event, but September may be more successful for outreach.

The board agreed that the September event would be more successful for outreach.

Agenda Item 6: Street Tree Replacement Program

a. Street Tree Grants & Town Project Updates

Cheryl Caines provided an update on the street tree replacement program. Mrs. Caines provided an update on the improvements from the previous replacement programs and the potential improvements that can happen for the coming year. Mrs. Caines provided an update on the Town’s street tree project and that it is contracted for the fall of this year.

Mrs. Oten asked about those reaching out and if they are able to have a sign-up sheet that is accessible for the public. Additionally, it was suggested that they be added to the list of those updated.

A resident suggested having flyers that are handed out with the water bills to show that the program is open.

Mrs. Caines provide information to those in the audience how the replacement program is running and what the future of the program could look like if it was expanded.

The board further discussed ideas on how to push the word out regarding the street tree replacement program.

Mrs. Oten asked about the contract for the fall and how many trees that it will include.

Mrs. Caines stated that it is about 25 trees as they average roughly \$1,000 a tree.

Mr. Lichtenstein asked about what areas of town the trees will be planted and if it will be spread out through out the community.

Mrs. Caines stated that it is spread out throughout the community.

Mr. Deshazor asked if there was money budgeted to advertising the program.

Mrs. Caines stated that in the last several years there has been limited resources but now there is more available to push out the program and notify residents.

Mrs. Oten stated the three items that stood out was the water bill notifications, farmer market program, and the sign up for residents.

Mrs. Larson asked about HOA's being able to reach out to gain additional information on these programs.

Mrs. Suever stated to ensure that the population that does not use smartphones/technology are still able to receive this same information.

Agenda Item 7: Tree Standards & Guidelines

a. Approved Street Tree List Discussion

Conor Ryan provided an update on the approved street tree standards list and the guidelines for the street trees. Mr. Ryan provided an update on the UDO Standards for street trees and how it lists the approved street tree species list. Mr. Ryan provided a total town tree inventory and the health status of these trees. A zoomed in scope was shown of the number of trees planted in the past two years and the health of those trees. A watch list has been provided for those street trees that may be exceeding the appropriate standards.

Mr. Dean asked if we have reached out to other Tree City USA cities to see what they are doing.

Mr. Ryan stated that while one has not been contacted directly, the towns data is being compared to others that are available.

Mr. Deshazor stated that as a planning board member it may be beneficial to have the generally accepted standards for the tree species.

Mr. Dean asked if there are any standards regarding the fruit bearing trees.

Mr. Ryan stated that generally fruit bearing trees are not allowable.

Mrs. Oten asked about how challenging it would be to update this list.

Mr. Ryan stated it goes with the UDO updates that occurs twice a year.

Sean Ryan stated that this year is to introduce the inventory and how they are being tracked. The board will then be able to provide recommendations and changes made with the UDO Updates.

Mr. Dean asked if there are plans to educate developers on the trees that they are picking.

Mr. Ryan stated that through the plan review process a developer is required to provide the landscaping that will be provided on a site and reviewers match these against the approved list. Not necessarily an education of the developers but it is a chance for staff to ensure that an appropriate tree is being selected.

Mr. Lichtenstein asked if this was for code compliance or if this was above and beyond the code. There is a huge disconnect between those drawing the plans and those that eventually have to install the planting with unrealistic drawing being prepared.

Mr. Ryan stated that there are amendments made to plans but a process may be needed to help better eliminate this problem to reduce the changes needed later on.

Agenda Item 8: Arbor Day & Education Events

a. Holly Fest Planning – October 28th

Aaron Prichard provided an update on the Arbor Day events and potentially how this program can be run.

Motion to move the tree giveaway to the fall.

Motion by: Eric Dean

Seconded by: Russell Lichtenstein

Action: *The committee voted in favor of the action.*

Agenda Item 9: Other Business

No new business

Agenda Item 10: Next Meeting – October 9th, 2023

Agenda Item 11: Adjournment

Motion to adjourn the meeting.

Motion by: Russell Lichtenstein

Seconded by: Danielle Hewetson

Action: *The meeting adjourned at 7:41 p.m.*

Brett Gosney
TAC Clerk

Wake County Land Cover Analysis and Tree Canopy Assessment

October 9, 2023

Tim Maloney, Director of Planning, Development and Inspections



@wakegov    

wakegov.com

Funding

- American Rescue Plan Act (ARPA) funding
 - \$5.7 billion directly available to North Carolina
 - \$217 million in State and Local Fiscal Recovery Funds (SLFRF) to Wake County
- Wake County's goals for ARPA funding
 - Primary = Public health needs
 - Secondary
 - Economic impacts spurred by the pandemic
 - Systemic community challenges
 - Planning and preparation for future events



Emphasis on Public Health

1. Environmental benefits
2. Mental and emotional benefits

Diversity,
equity and
inclusion

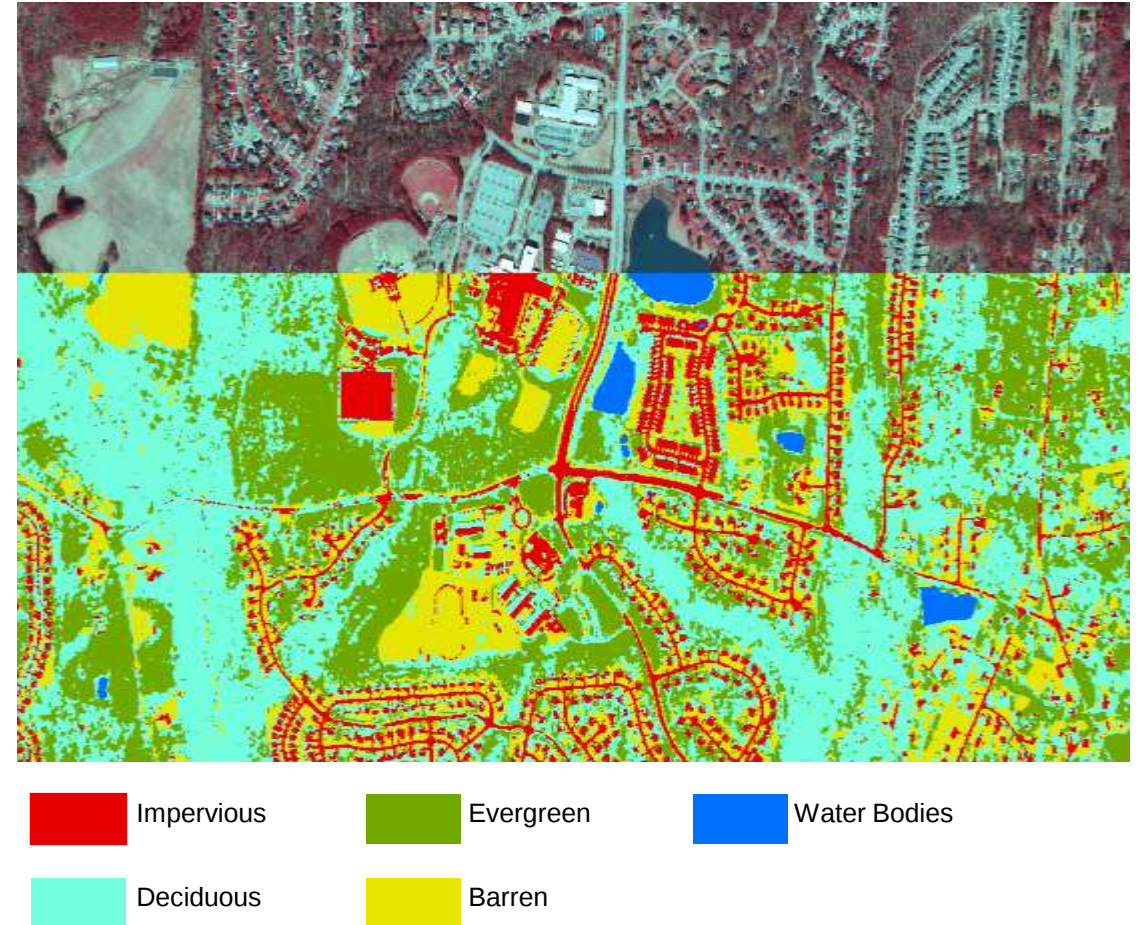
Wake County Board Goals

- ✓ Community Health and Vitality
- ☐ Economic Strength
- ☐ Education
- ☐ Great Government
- ✓ Growth and Sustainability
- ☐ Public Safety



Purpose and Scope

- Produce a robust measurable Land Cover dataset.
- Quantify the reality of tree loss within Wake County from 2010-2020.
- Identify priority planting areas to support environmental, social and health benefits.
- Provide actionable data and deliverables for all core municipalities within Wake County.



Collaboration



Consultant

- Davey Resource Group (DRG)



Project team

- Staff – Planning, Environmental Services and Facilities Design & Construction
- Municipal partners – Cary, Morrisville and Raleigh



Representatives from the twelve core municipalities.



Land Cover Analysis

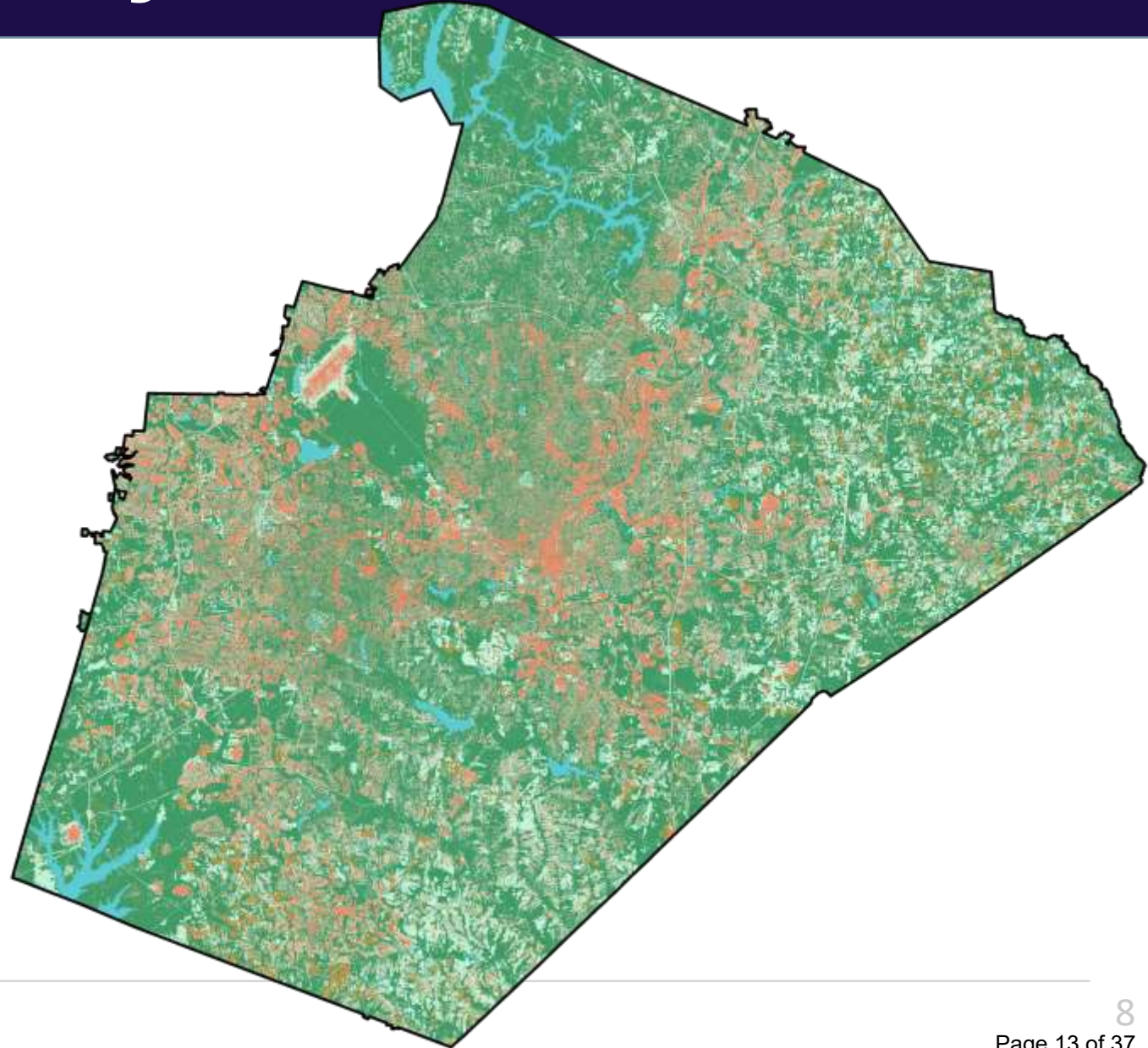
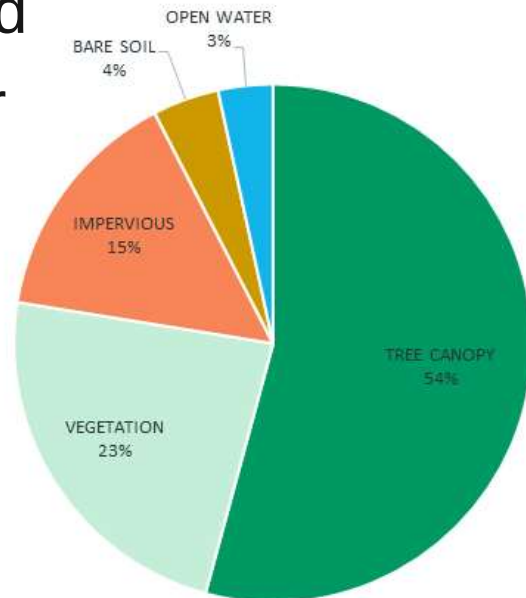
Method

- Procure the best available aerial imagery.
 - National Agriculture Imagery Program (NAIP 2010 & 2020)
- Conduct an analysis of the total Land Cover dataset for Wake County.
 - Impervious surface
 - Tree canopy
 - Water bodies
 - Barren land areas
- Differentiate forest health and measurable tree canopy.
- Identify tree cover benefits and possible health related impacts.
 - Urban heat island
 - Stormwater
 - Social equity

2020 Land Cover Analysis

Land Cover Classes

1. Tree canopy
2. Impervious surface
3. Vegetation
4. Bare ground
5. Open water



Land Cover Data

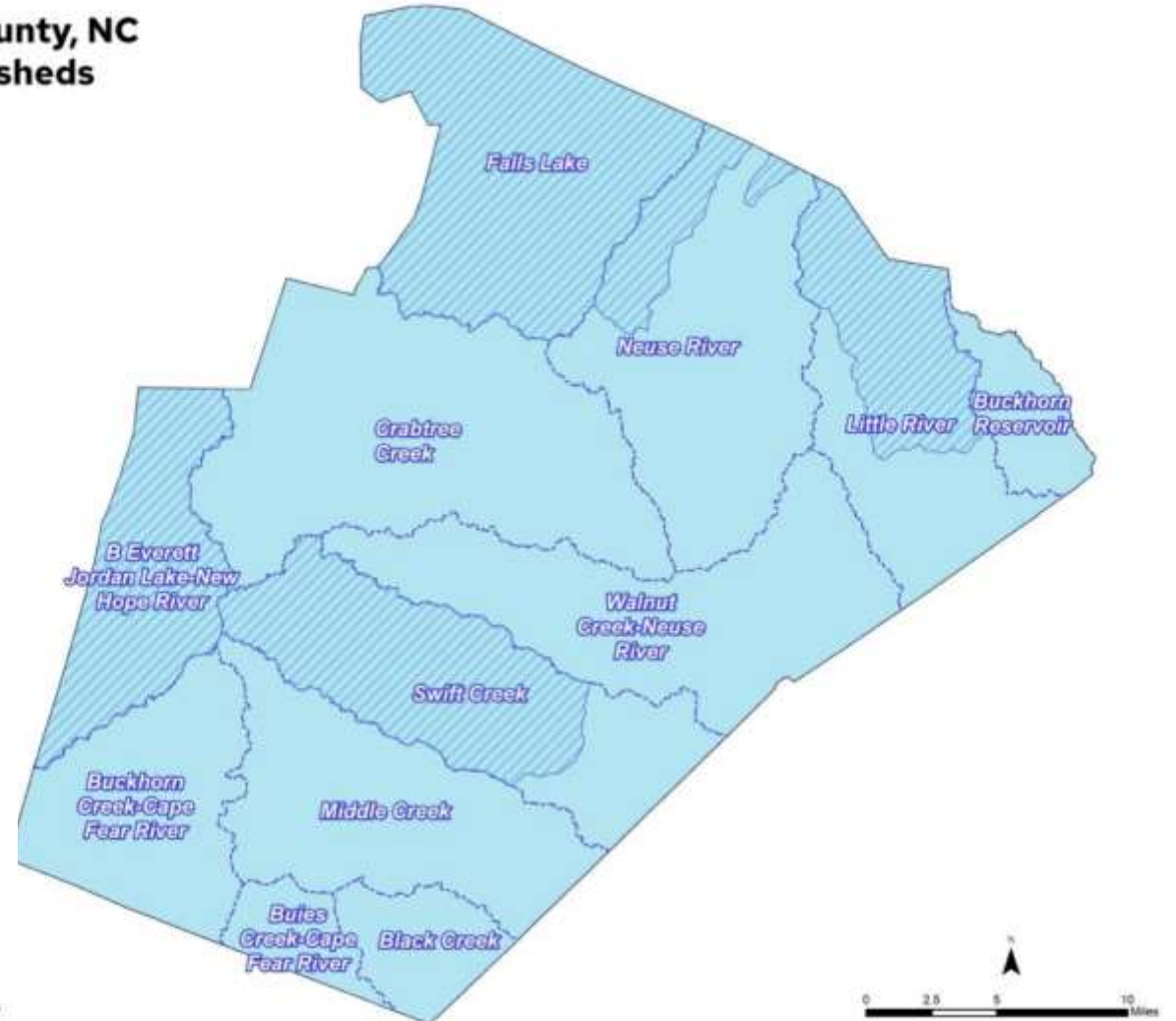
JURISDICTION	ACRES	CANOPY	IMPERVIOUS	VEGETATION	BARE GROUND	OPEN WATER
Apex	24,199	50%	20%	23%	5%	1%
Cary	43,817	49%	26%	19%	2%	3%
Fuquay Varina	29,386	45%	14%	29%	9%	2%
Garner	25,290	56%	16%	23%	3%	1%
Holly Springs	20,456	55%	14%	22%	7%	1%
Knightdale	16,121	52%	14%	28%	4%	1%
Morrisville	6,304	34%	38%	23%	4%	1%
Raleigh	116,191	51%	26%	21%	2%	1%
Rolesville	8,157	52%	11%	29%	7%	2%
Wake Forest	14,449	46%	24%	26%	4%	1%
Wendell	10,062	50%	11%	30%	7%	2%
Zebulon	8,849	50%	12%	27%	10%	2%
Unincorporated	220,257	60%	6%	24%	4%	6%

Land Cover Geographies

Geographies Analyzed

- Planning Jurisdiction
 - Corporate Limits
 - Extraterritorial Jurisdiction (ETJ)
- ❑ Census Boundaries
 - Census Block Groups
 - Census Tracts & Qualified Census Tracts
- ❑ Watersheds
- ❑ Parks & Open Space
- ❑ Municipal Transition Areas

Wake County, NC
Watersheds





Tree Canopy Assessment

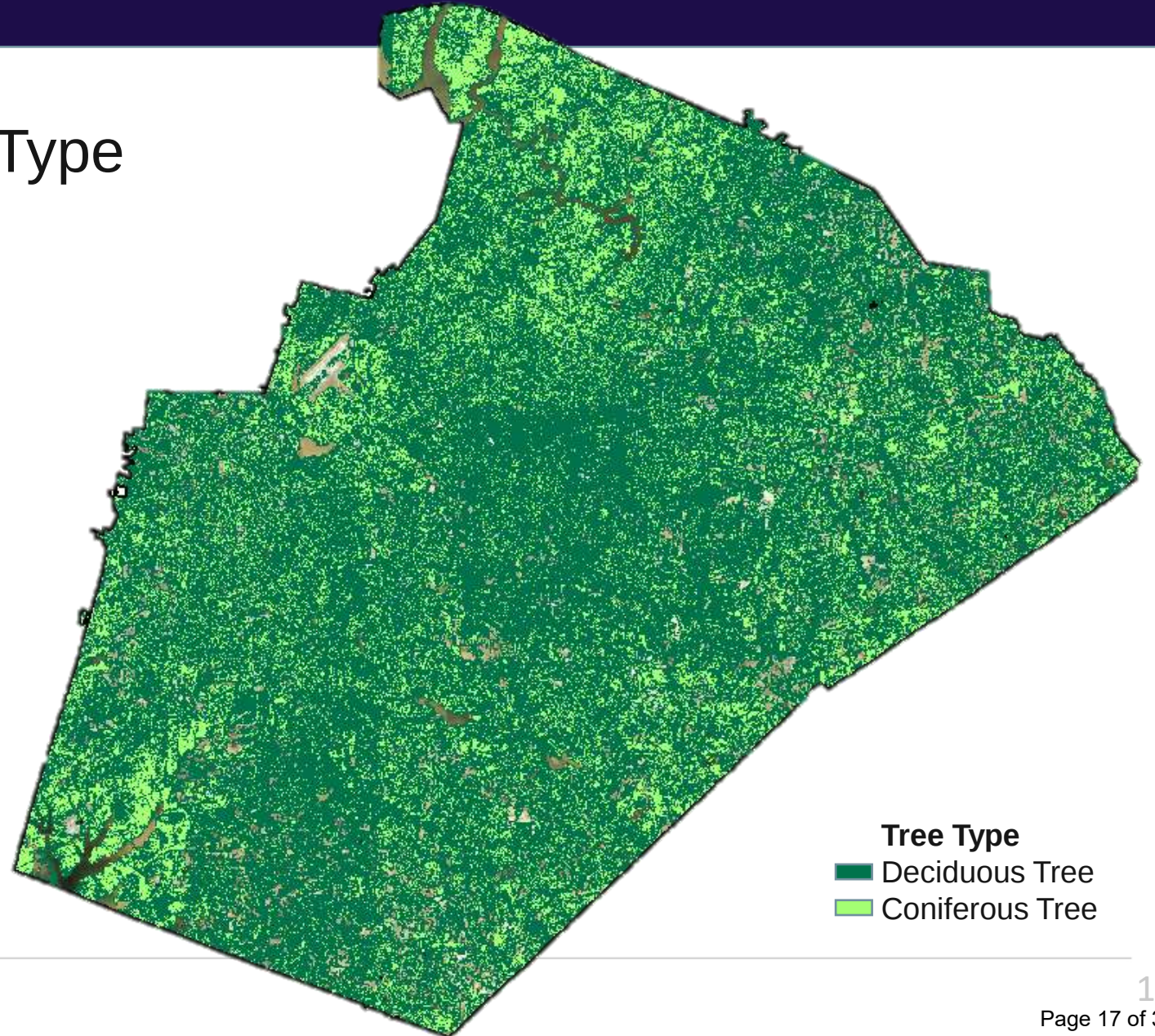
Canopy Type and Health

Wake County 2020 Canopy Type

Canopy Acreage: 54.21%

Deciduous: 70.49%

Coniferous: 29.51%



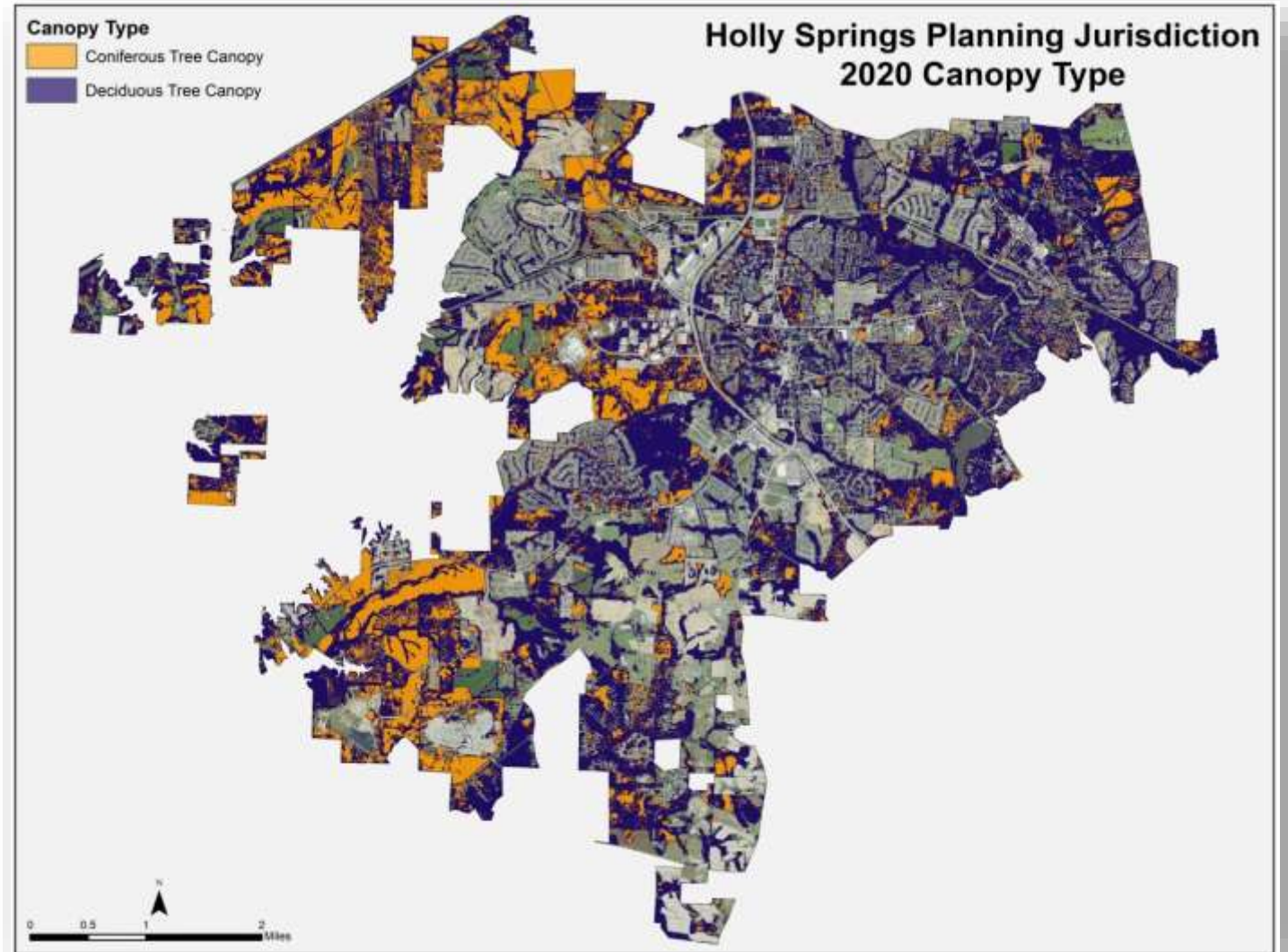
Holly Springs Canopy Type

2020 Canopy Type

Canopy Acreage: 55%

Deciduous: 75%

Coniferous: 25%



Holly Springs Canopy Health

2020 Overall Canopy Health

Very Good Condition: 23.5%

Good Condition: 33%

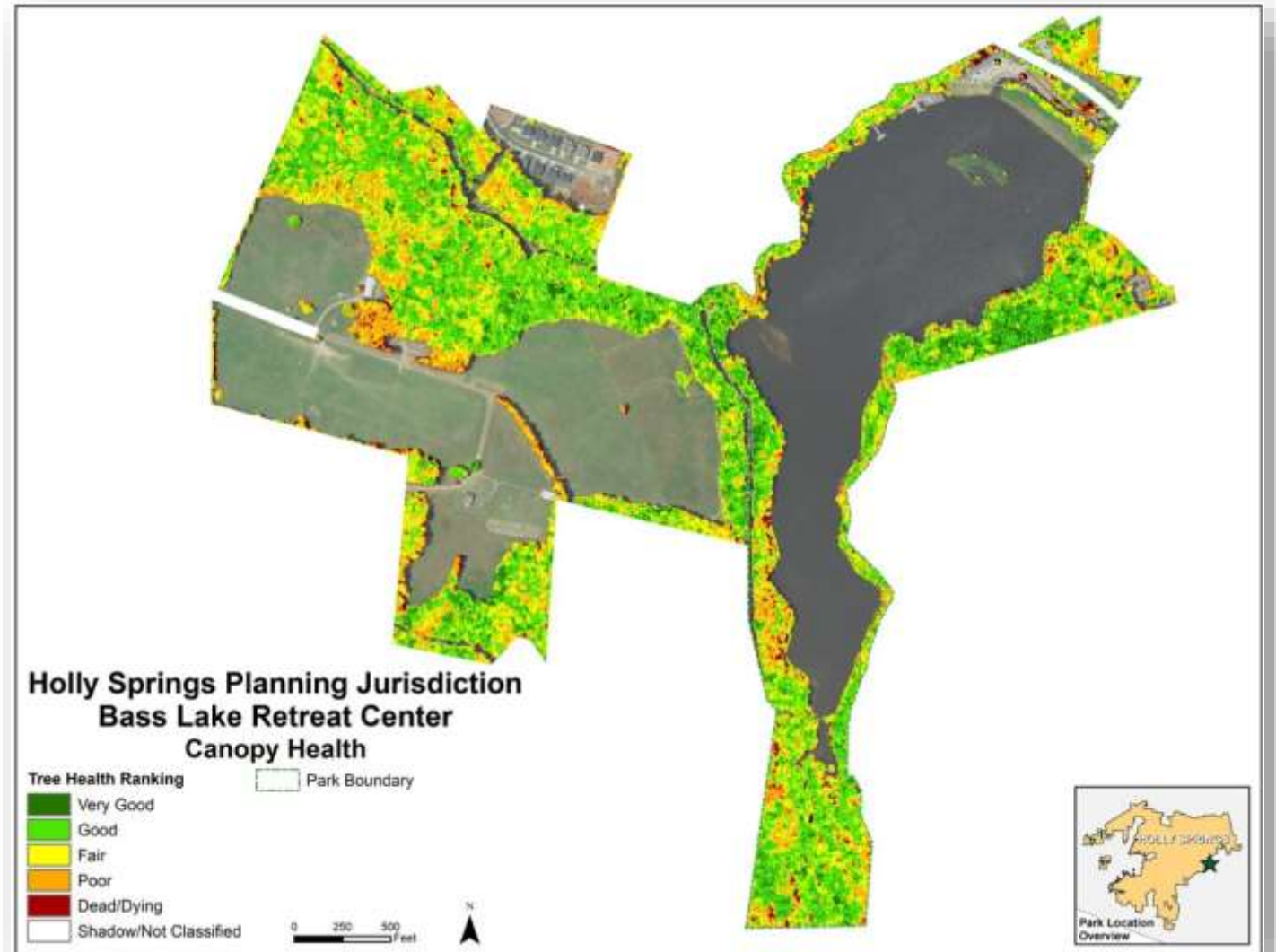
Fair Condition: 27%

Poor Condition: 13.5%

Dead/Dying: 3%

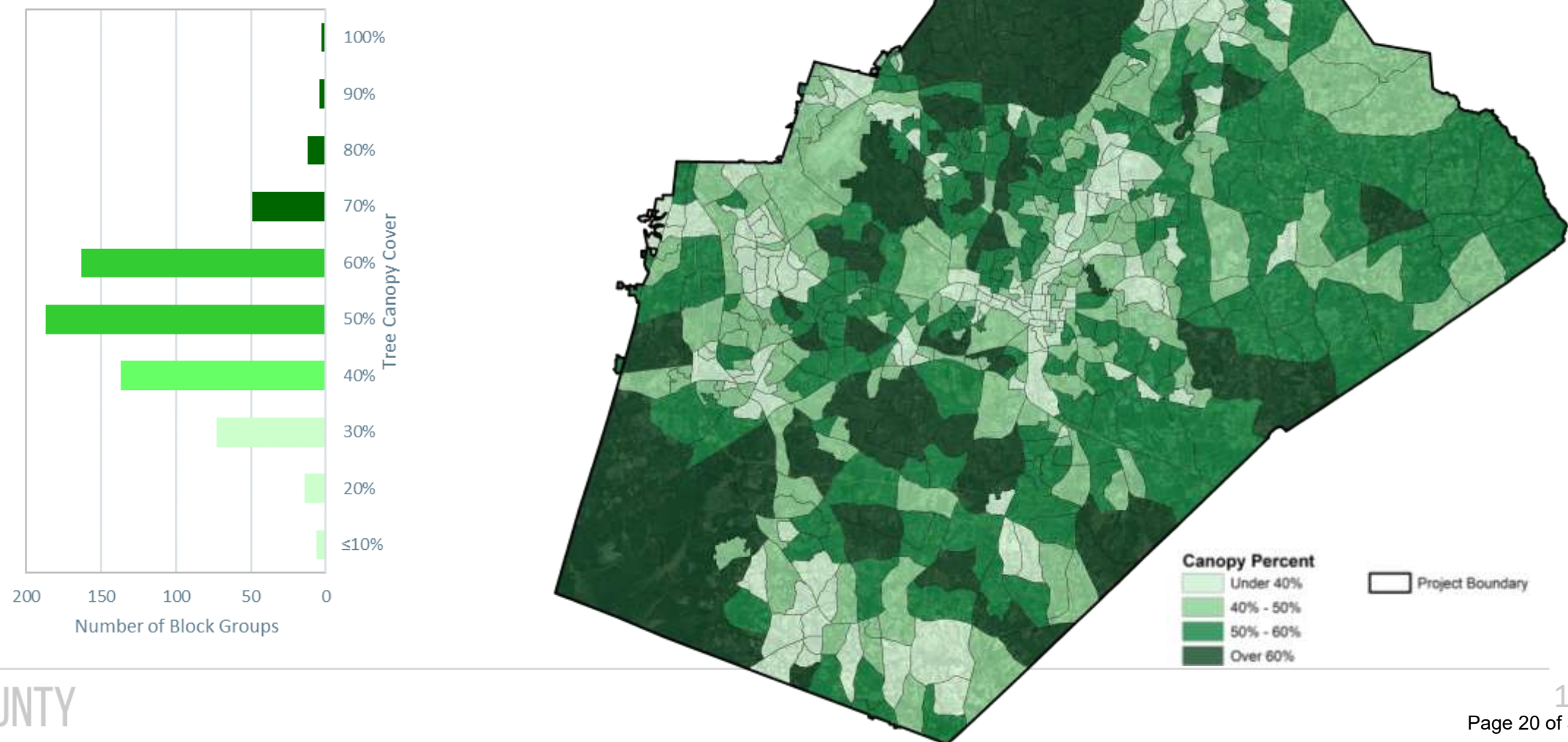
Shadow/Not Classified: < 1%

Drill down into specific areas →



Wake County Tree Canopy Cover

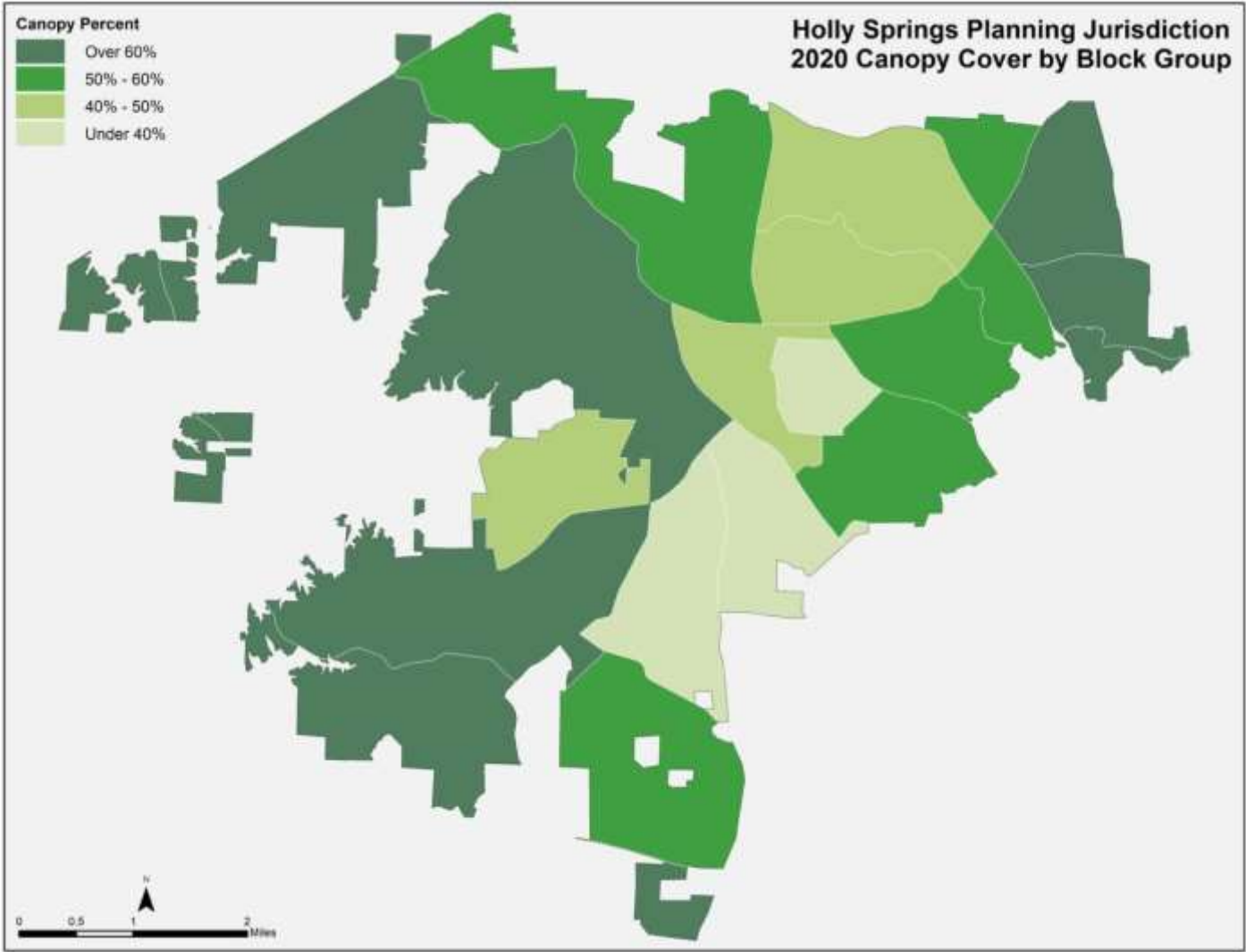
2020 Canopy Cover by Census Block Group



Holly Springs Tree Canopy Cover

2020 Canopy Cover by Census Block Group

Geography	Acres	Percentage
Corporate Limits	5,534	49.4%
ETJ	5,680	50.6%



Wake County Historical Canopy Change

Canopy Change from 2010-2020

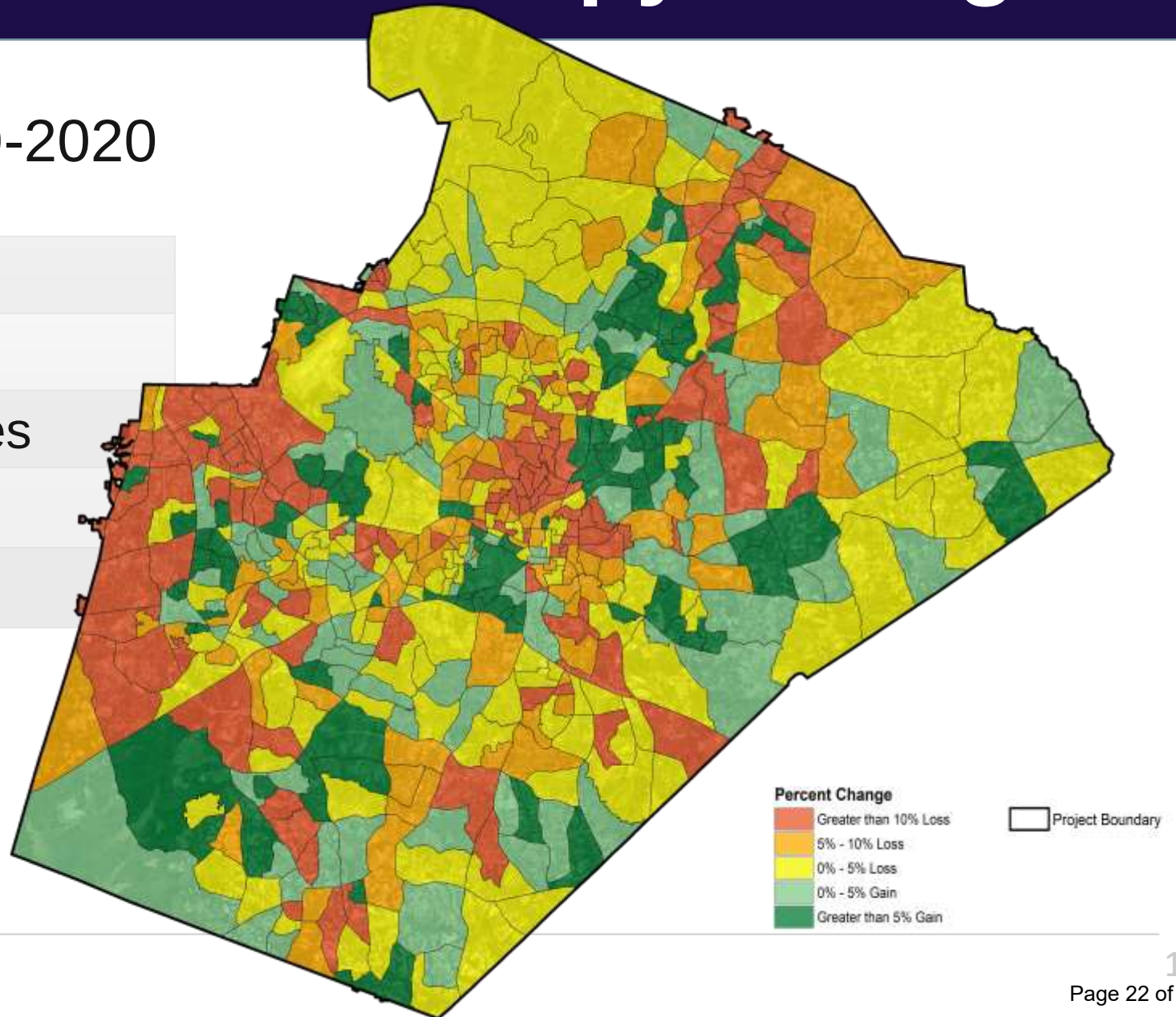
2010 Canopy Acres: 56.24%

2020 Canopy Acres: 54.21%

Net Loss: 11,122 canopy acres

Relative Change: -3.61%

Absolute Change: -2.03%



Holly Springs Historical Canopy Change

Canopy Change 2010-2020

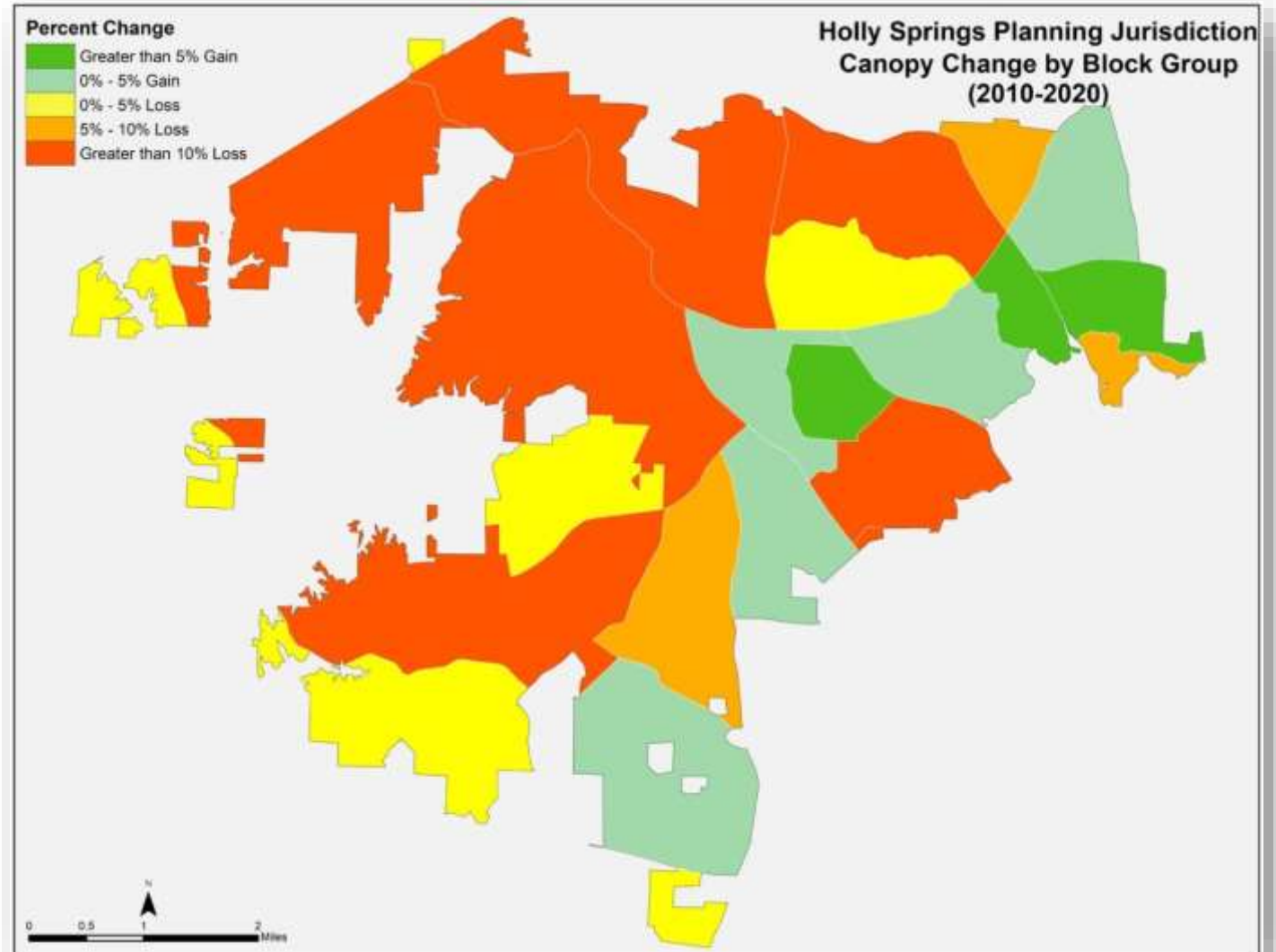
2010 Canopy Acres: 61.1%

2020 Canopy Acres: 54.8%

Net Loss: 1,292 canopy acres

Relative Change: -10.3%

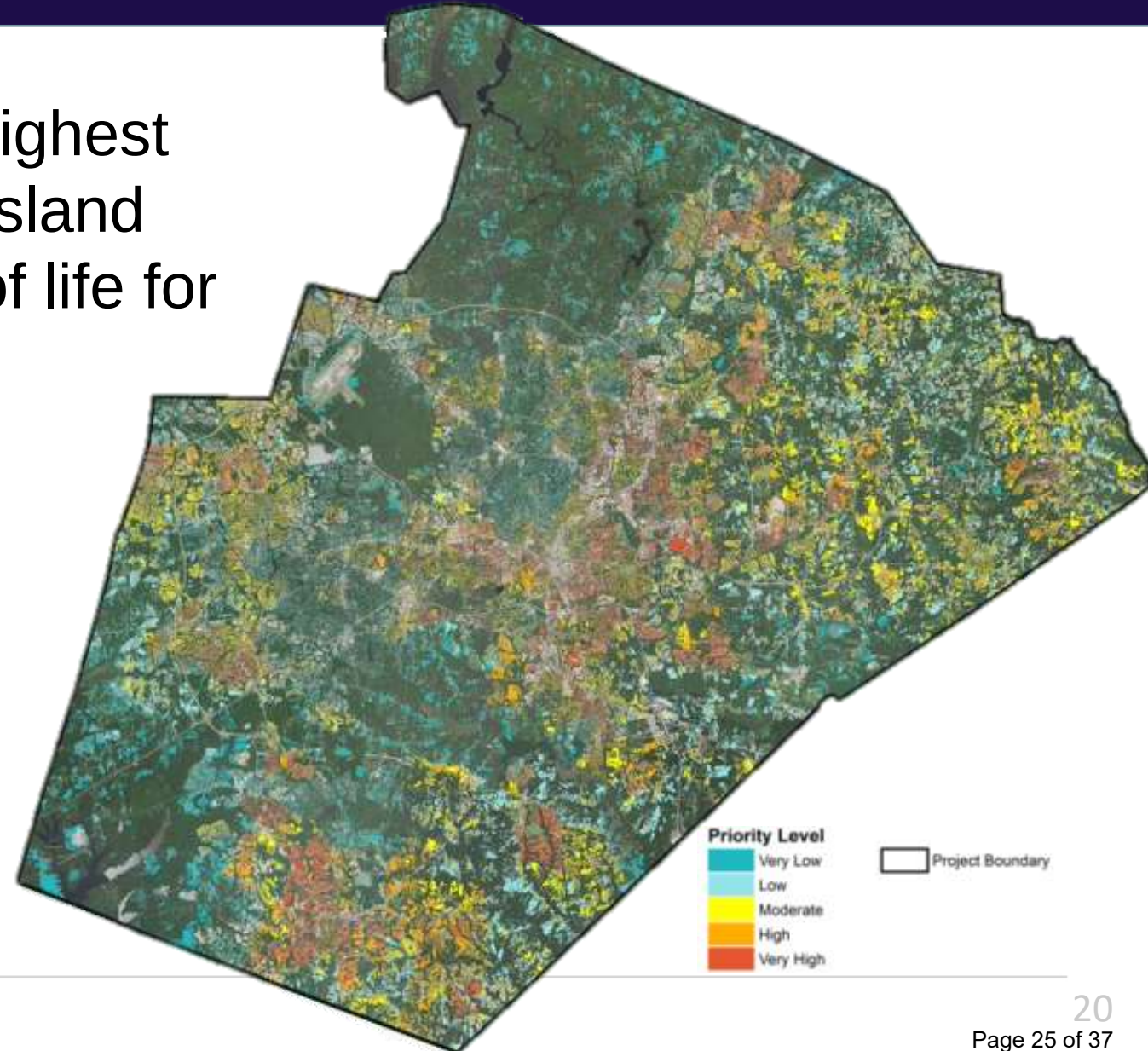
Absolute Change: -6.3%



Planting Area Analysis

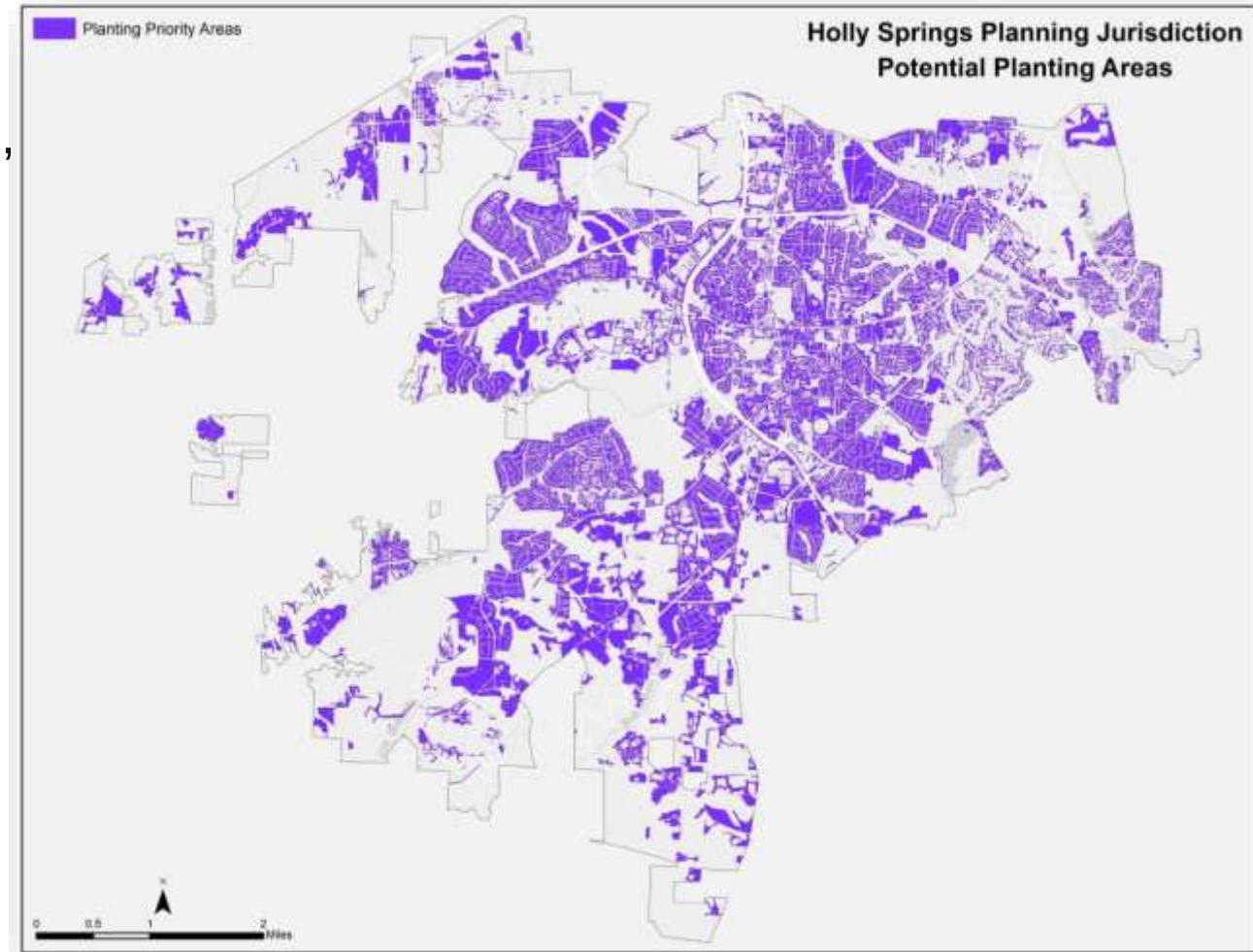
Composite of Priority Planting Areas

Areas that, if planted, have the highest potential to improve urban heat island effect, water quality and quality of life for Wake County's residents.



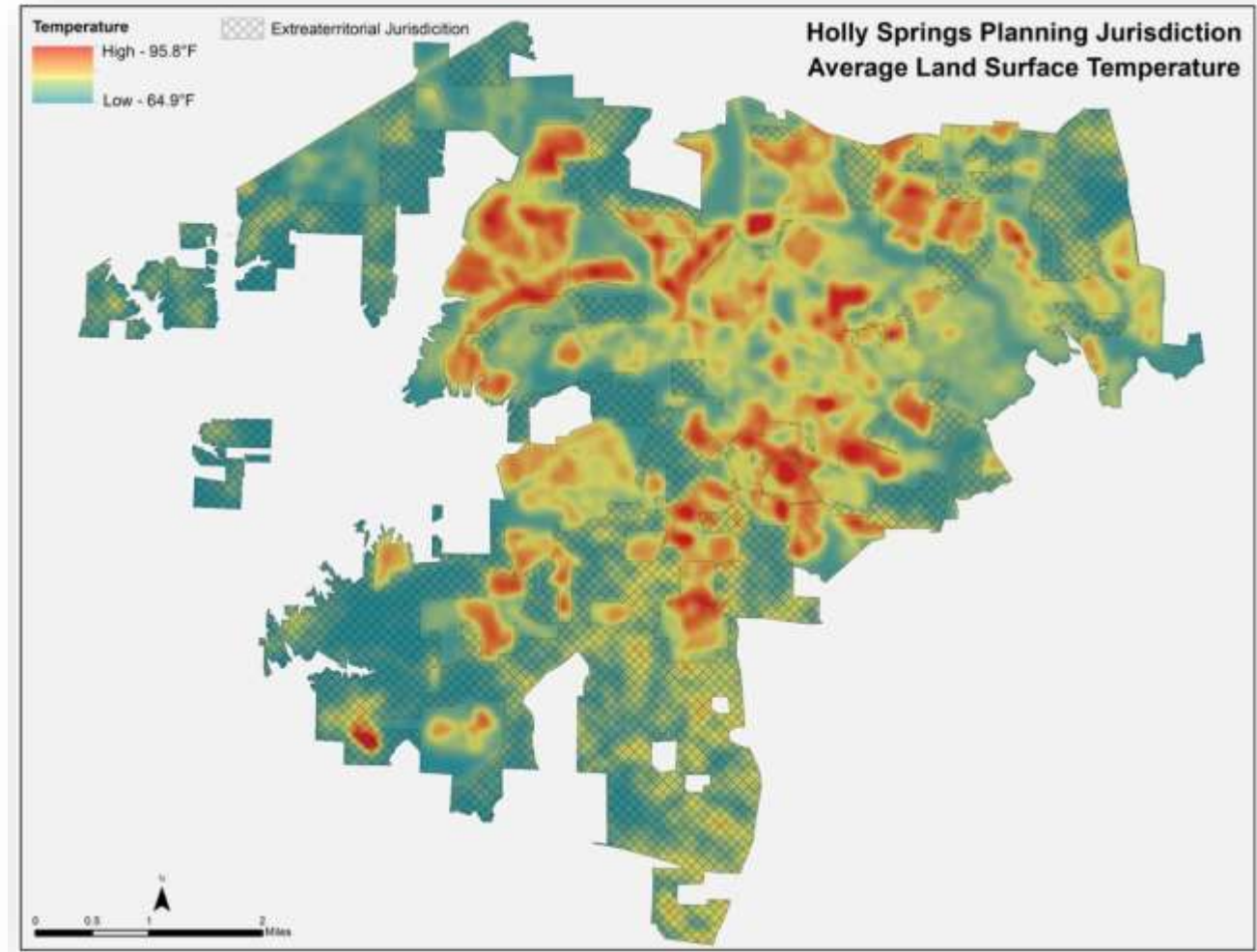
Identifying Planting Areas

1. Identify realistic planting areas.
 - Exclude areas such as utility corridors, golf courses and visible cropland
2. Perform a vulnerability assessment.
 - Urban heat islands
 - Social equity
 - Environmental impacts
(stormwater, soil erosion and floodplains)
3. Prioritize the planting areas.



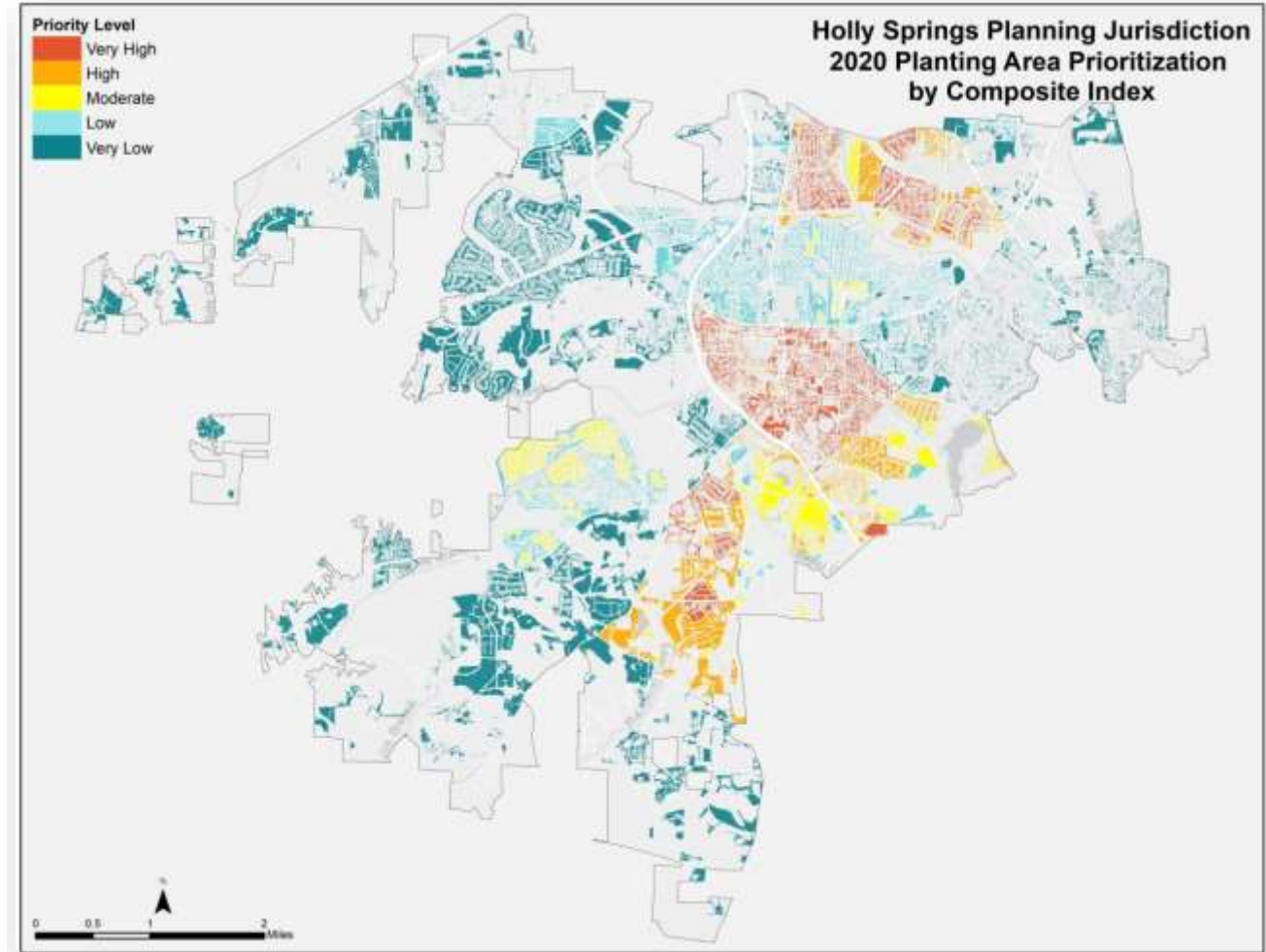
Urban Heat Islands

Urban areas are often subject to higher temperatures due to a relatively low amount of tree cover, compared to rural areas. Researchers have found that this urban heat island (UHI) effect is largely due to the removal and replacement of tree canopy with impervious surfaces.



Composite of Priority Planting Areas

Areas where tree canopy can be expanded to maximize benefits that will have the most impact on human health, economics and wellbeing.



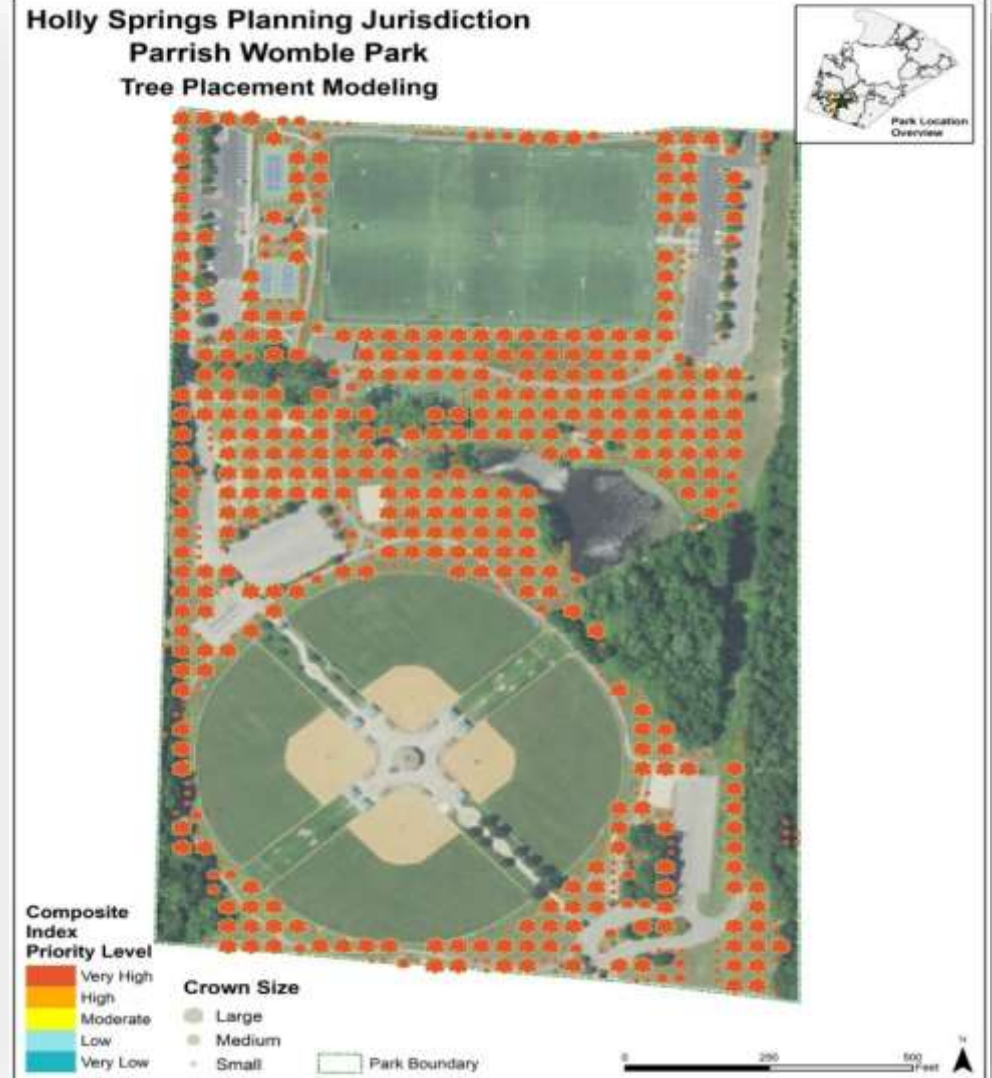
Tree Placement Modeling

TABLE 3.3 TREE PLACEMENT MODEL:
CROWN SIZE & SPACING PARAMETERS

MATURE CROWN SIZE	PLACEMENT SITE PRIORITY	
	VERY HIGH	TOTAL
Small	213	213
Medium	42	42
Large	351	351
Total	606	606

TABLE 3.4 PARRISH WOMBLE PARK:
PRIORITY TREE PLANTING SITES (2020)

Tree Placement Model: Crown Size & Spacing Parameters		
Planting Site Size	Mature Crown Diameter	No Other Trees Placed within:
Small	20 Feet	10 Feet
Medium	30 Feet	15 Feet
Large	40 Feet	20 Feet



Canopy Benefits and Next Steps

Canopy Benefits

“Wake County’s trees have collectively removed more than 10 million tons of carbon from the atmosphere, valued at \$1.7 billion...”
- Davey Resource Group

Benefits and Value of Holly Springs’ Tree Canopy

Trees help clean the air we breathe, filter the water we drink and mitigate the impacts of a changing climate. Through their natural biological and ecological functions, trees provide critical community infrastructure.

The ecosystem service capacity of tree canopy within the Holly Spring planning jurisdiction was measured and valued using i-Tree, a software suite made available by the U.S. Forest Service.

THE TOTAL VALUE OF HOLLY SPRINGS’ TREE CANOPY IS \$120.4 MILLION

Carbon Storage = \$65,566,308

Trees are carbon sinks: they absorb carbon dioxide from the atmosphere and convert it into glucose, which is used as food for the tree. The leftover carbon is then stored within tree tissue, including the trunk, branches, leaves and roots.

Over their lifespan, the trees within the planning jurisdiction are estimated to have collectively removed and stored over **384,439 tons of carbon** from the atmosphere.

Total Annual Benefits = \$54,906,194

The benefits analysis measured and valued three specific ecosystem service functions of tree canopy: **air pollution removal**, **carbon sequestration** and **stormwater capture**.

EACH YEAR, HOLLY SPRINGS’ TREES:


**REMOVE 415 TONS
OF POLLUTANTS FROM THE AIR**

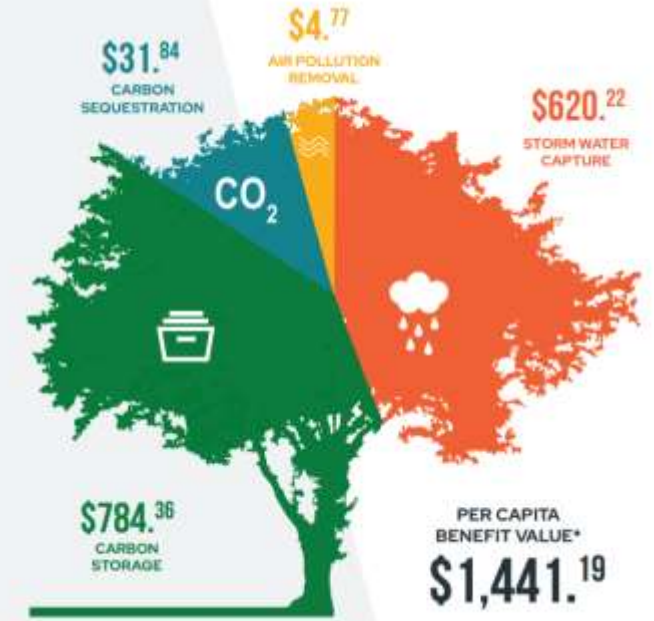

**ABSORB 15,608 TONS
OF CARBON DIOXIDE**


**INTERCEPT 304 MILLION
GALLONS OF STORMWATER**

Additional, less quantifiable canopy benefits include, but are not limited to:

- Increased property values.
- Improved physical health.
- Shade and cooler air in the summer.
- Improved mental well-being.
- Energy conservation.
- Increased biodiversity and habitat.

**SPENDING TIME AROUND TREES AND LOOKING AT TREES REDUCES STRESS,
LOWERS BLOOD PRESSURE AND IMPROVES MOOD.**



What do your community’s trees do for you?

Trees provide substantial added value to the quality of life of Wake County’s residents. The ecosystem services contributed to the community by its tree canopy infrastructure can be quantified and valued on an individual level.

Over their lifespan, Holly Spring’s trees have stored an estimated accumulated total of 4.6 tons of carbon per resident, translating to a per capita carbon storage value of \$784.

Per resident, Holly Springs’ tree canopy annually removes 9.9 pounds of air pollution, captures 3,648 gallons of stormwater and absorbs 373 pounds of carbon. These vital eco-services translate to an annual per capita value of \$657.

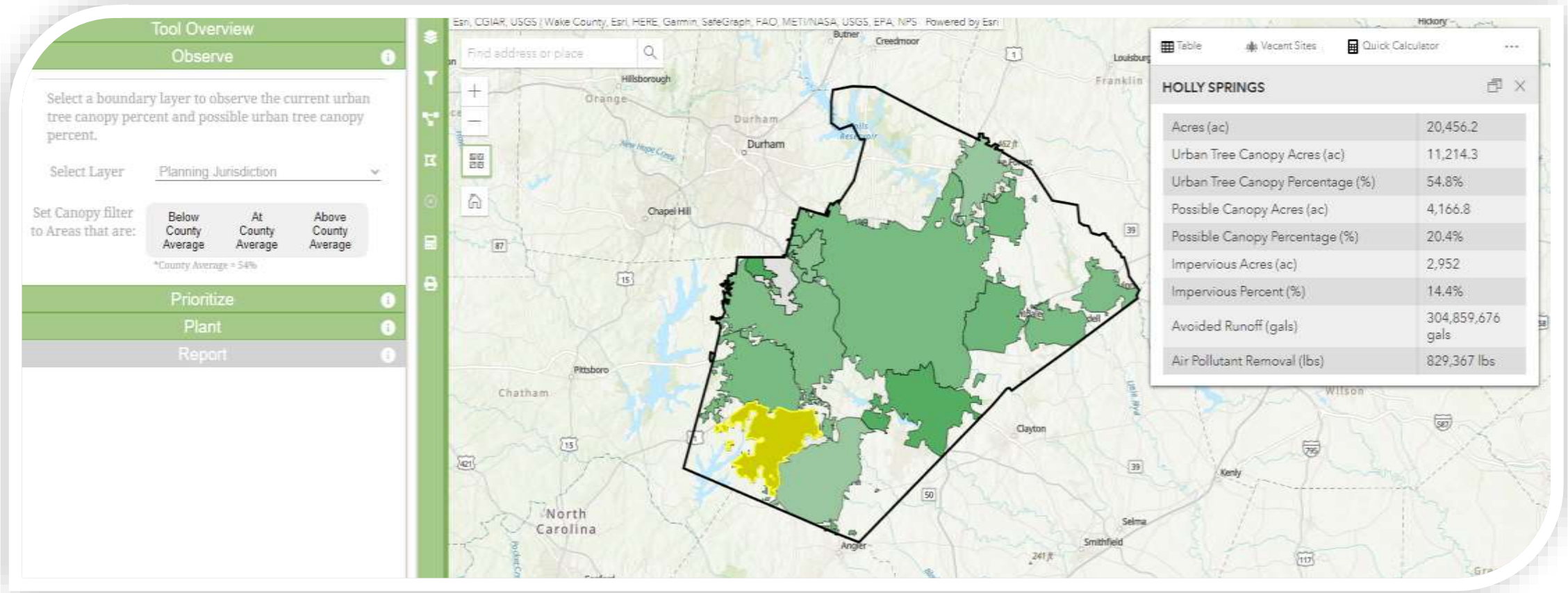
The combined per capita benefit value of Holly Springs’ tree canopy is estimated to be \$1,441.19.

*Per capita refers to the average value per Holly Springs resident. As of 2020, Holly Springs had a resident population of 41,239 with a tree canopy valuation, specific to the corporate limits, of \$59,433,350.

Operationalizing Data

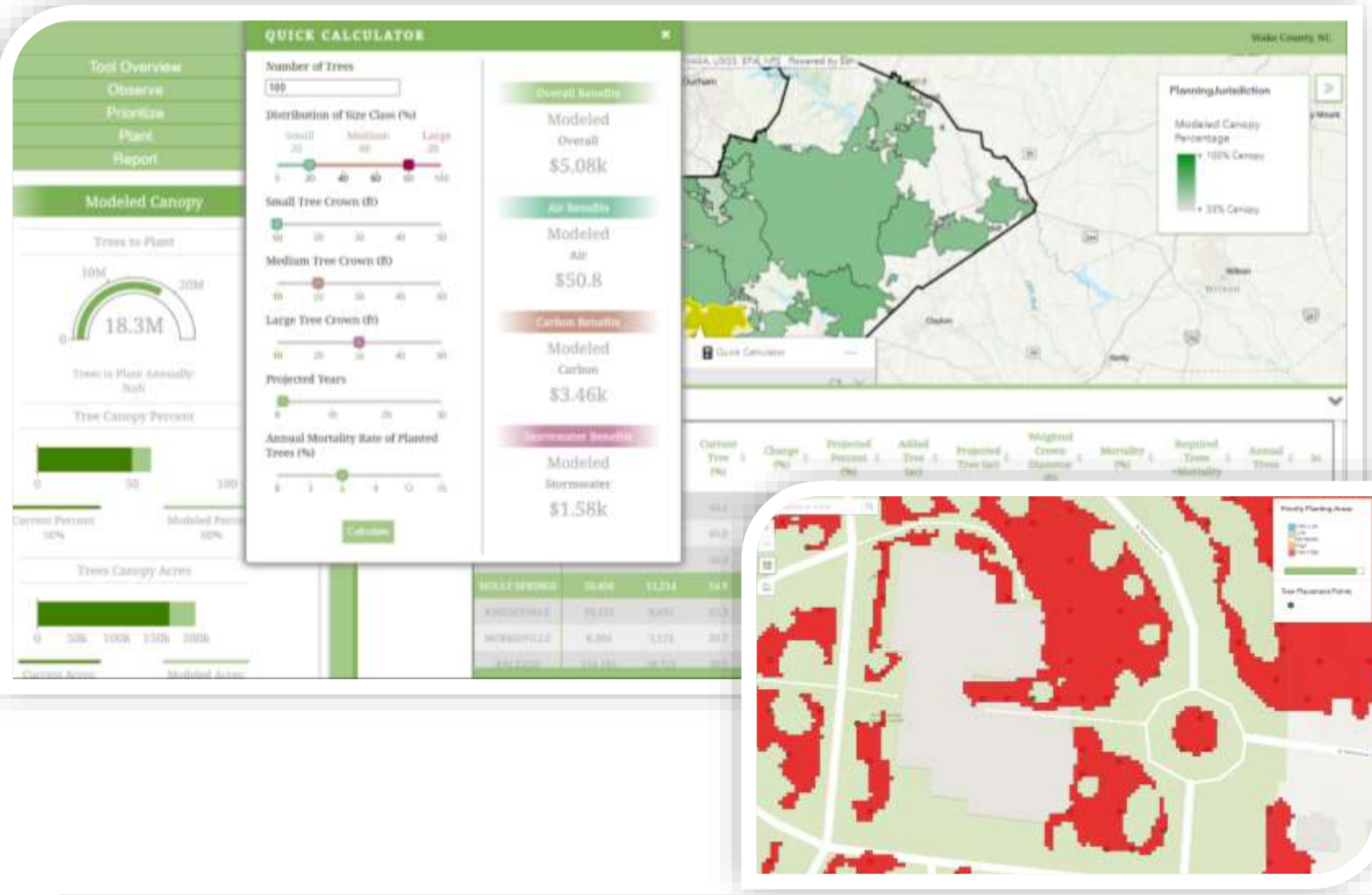


TreeKeeper Canopy Software



- Make data observations quickly and easily.
- Share the benefits of your tree canopy and promote the value of community trees.

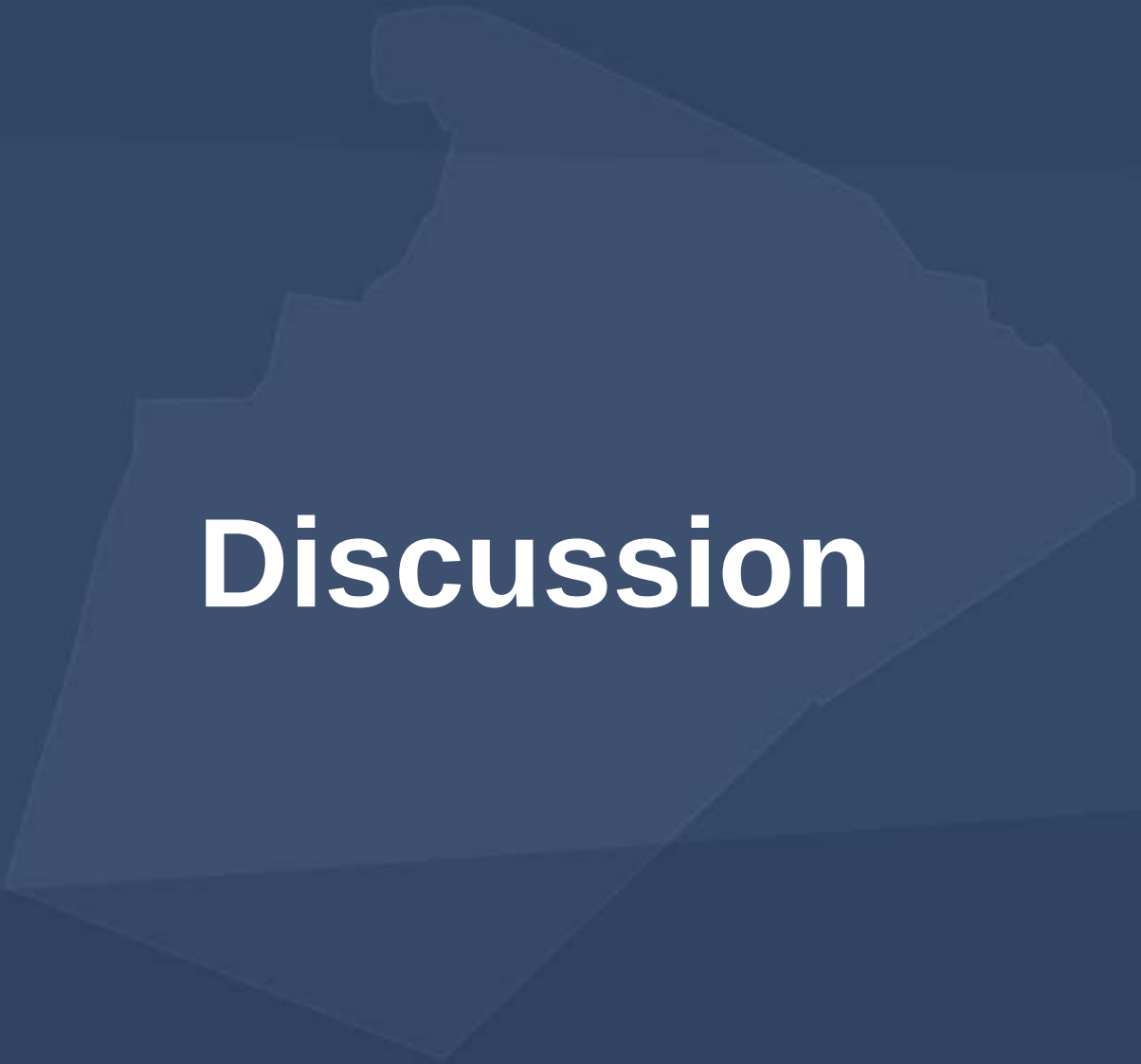
Tree Canopy Visualization



- Prioritize and plan tree plantings using environmental and social equity data.
- Make data-driven decisions that can fuel program budgets and encourage support of your sustainability programs.
- Create custom tree canopy goals and projections.

Next Steps

- Present the report findings to stakeholders.
- Implement the communications plan.
 - Public engagement kicked off on Sept. 5.
 - Public education campaign focusing on canopy benefits over the next several months.
- Continue working with stakeholders on operationalizing data.
 - Example: DOT pilot planting project.
- Consider a follow-up analysis in five to ten years.



Discussion

** When scheduling inspections, use the following comment (if applicable): Replace dead street tree with a Willow Oak - Update GPS marker (if applicable) **	
FUNDING:	The Holly Springs City Council has appropriated funding for this program the Fiscal Year Budget. The <u>Town will provide reimbursement for approved projects up to \$750 for requests by an individual and up to \$5,000 for requests by a group</u>. The grant amount will be paid only when installation is completed and receipts are submitted to the Holly Springs Development Services Department. Recipient must complete a vendor form with the Town of Holly Springs Finance Department for payment. If the actual costs are less than the cost estimates, the maximum amount shall not exceed 100% of the actual costs or the approved funding amount, whichever is less. In no case shall a grant be issued higher than the original approved grant amount. Receipts and invoices must be submitted to the Town of Holly Springs, Development Services by January 15, 2024 to receive reimbursement funds.
In a 12/14/21 email from Antuan - states NO VENDOR/SUPPLIER FORM OR W9 form is required for reimbursement to TOHS citizens. Reimbursements will not be taxed	